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Rhode Island Medical Journal

January, 1978

Vol. 61, No. 1

Special Cardiology Issue

Anxiety...
Often a significant feature
of irritable bowel syndrome*
The action of
Librium®
(chlordiazepoxide HCl)
A significant advantage
of adjunctive
Librax®
Each capsule contains
5 mg chlordiazepoxide HCl and
2.5 mg clidinium Br.
Antianxiety
Antisecretory
Antispasmodic
Librax is unique among GI medications in providing
the specific antianxiety action of Librium® (chlordiaz-
epoxide HCl) as well as the potent antisecretory and
antispasmodic actions of Quarzan® (clidinium Br) for
adjunctive therapy of irritable bowel syndrome* and
duodenal ulcer.
*Librax has been evaluated as possibly effective for this indication.
Please see brief summary of prescribing information on following page.
ROCHE

Librax®

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium Br.

Please consult complete prescribing information, a summary of which follows:

Indications: Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows.

"Possibly" effective: as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.

Final classification of the less-than-effective indications requires further investigation.

Contraindications: Glaucoma, prostatic hypertrophy, benign bladder neck obstruction; hypersensitivity to chlordiazepoxide HCl and/or clidinium Br.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librium® (chlordiazepoxide HCl) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.**

As with all anticholinergics, inhibition of lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship not established.

Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated, avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction; changes in EEG patterns may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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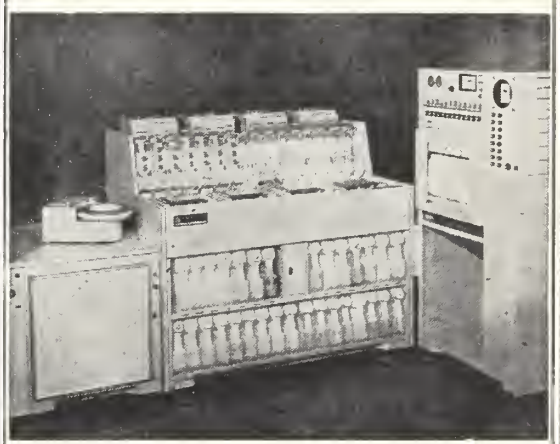

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Rhode Island Medical Journal

JANUARY, 1978 VOLUME 61, No. 1

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CONTINUING MEDICAL EDUCATION CALENDAR

MARCH

8 CLINIC DAY IN EMERGENCY MEDICINE. Topics will include: "The Ophthalmologic Emergency," Robert Curran, M.D., Chief, Ophthalmology, The Memorial Hospital and Clinical Assistant Professor, Brown University Program in Medicine; "Epistaxis," Vartan Papazian, M.D., Chief, Otolaryngology, The Memorial Hospital; "Acute Abdominal Trauma," Paul Healey, M.D., Surgeon, The Memorial Hospital; "Head Injuries (an overview)," Paul Bernstein, M.D., Neurosurgeon, The Memorial Hospital; "Knee Injuries," David Quigley, M.D., Orthopedic Surgeon, The Memorial Hospital and Clinical Instructor, Brown University Program in Medicine; "CPR," Abdul H. Khan, M.D., Medical Director ICU/CCU, The Memorial Hospital and Assistant Professor of Medicine, Brown University Program in Medicine; "Hand Injuries," Charles Johnson, M.D., Chief, Plastic Surgery, The Memorial Hospital and Clinical Instructor, Brown University Program in Medicine; "Psychiatric Emergencies," Bashir Ahmad, M.D., Chief, Psychiatry, The Memorial Hospital. Sponsored by The Memorial Hospital and Brown University Program in Medicine. 8:30 a.m. to 4:00 p.m. Registration fee $20.00 (includes lunch). Nurses Auditorium, The Memorial Hospital. For further information, contact J. J. Theoret, M.D., 722-6000.

11 & 12 FOURTEENTH ANNUAL DENTISTRY/MEDICINE INTERFACE SYMPOSIUM ENTITLED "VIRAL DISEASE AND OTHER INFECTIONS OF THE ORAL CAVITY." Topics will include: "Introduction to Virology" and "EB Virus and Human Cancer," Alan S. Rabson, M.D., Director, Division of Cancer Biology and Diagnosis, National Cancer Institute; "The Herpesviruses" and "EB Virus — Clinical Aspects," Clyde Crumpacker, M.D., Assistant Professor of Medicine, Harvard Medical School and Chief, Infectious Disease Unit, Beth Israel Hospital; "Viral Diseases and other Infections Involving the Oral Cavity," Nathaniel Young, M.D., Head, Viral Oncology and Molecular Pathology Section, Laboratory of Pathology, Division of Cancer Biology and Diagnosis, National Cancer Institute and Senior Attending Physician in Infectious Diseases, National Institute of Allergy and Infectious Diseases; "Antiviral Therapy," Raphael Dolin, M.D., Head, Virology Section, Laboratory of Clinical Investigation, National Institute of Allergy and Infectious Diseases; "Iontophoresis Treatment," Mary D. Lekas, M.D., Surgeon, Department of Otolaryngology, Rhode Island Hospital and Assistant Clinical Professor of Surgery, Brown University Program in Medicine. Sponsored by the American Academy of Oral Medicine and the Brown University

Program in Medicine for interested dentists, physicians, and allied health profession personnel. Scientific sessions 12:45 p.m. to 4:45 p.m. on Saturday and 9:00 a.m. to 12:30 p.m. on Sunday. Ress Auditorium, Barus and Holley Building, Brown University. Registration fee $25.00 (fee is waived for Brown full-time faculty members, residents, and students). Additional charge of $12.00 for cocktails and dinner at the Brown Faculty Club on Saturday night at 6:30. For further information, contact Mrs. Owens, 863-3330.

17 "RECENT ADVANCES IN PEDIATRICS," Sydney S. Gellis, M.D., Tufts University School of Medicine. Pediatric Teaching Rounds, Kay Auditorium, Roger Williams General Hospital. 10:30 a.m. to 12:00 noon.

"THE PROPER USE OF PSYCHIATRIC CONSULTATION AT A COMMUNITY HOSPITAL," Shervert H. Frazier, M.D., Professor of Psychiatry, Harvard Medical School; Psychiatrist-in-Chief, McLean Hospital, Belmont, Massachusetts. 10 a.m. to 12 noon. AV Room, Newport Hospital.

29 SEMINAR ENTITLED: "NONINVASIVE EVALUATION OF THE PATIENT WITH ISCHEMIC HEART DISEASE." Topics will include: "Survey of Noninvasive Diagnostic Techniques in Cardiology," Arthur Sasahara, M.D., Chief of Medicine, U.S. Veterans Administration Hospital, Roxbury, Massachusetts; Professor, Harvard Medical School; "Myocardial Infarct Imaging," Leonard B. Holman, M.D., Chief of Clinical Nuclear Medicine, Peter Bent Brigham Hospital, Boston, Massachusetts; Associate Professor of Radiology, Harvard Medical School; Established Investigator, American Heart Association; "Evaluation of Left Ventricular Function and Stress Testing with Radionuclides by Gated Images," Gerald Pohost, M.D., Assistant Professor in Medicine at the Massachusetts General Hospital, Boston, Massachusetts; "Evaluation of Left Ventricular Function by Single Pass Studies," Donald Tow, M.D., Chief, Nuclear Medicine Service, U.S. Veterans Administration Hospital, West Roxbury, Massachusetts; "Stress Testing with ECG Monitoring," Richard A. Carleton, M.D., Chief, Division of Cardiology, The Memorial Hospital, Pawtucket, R.I.; Professor of Medicine, Brown University, Providence, R.I.; "Physical Concepts of Ultrasound in Diagnostic Medicine," Paul H. Brown, Ph.D., Instructor, Radiation Physics, Brown University, R.I.; Physicist-in-Charge, U.S. Veterans Administration Hospital, Providence, R.I.; "Echocardiography in Evaluation of Left Ventricular Function," John O. Pastore, M.D., Director, Noninvasive Cardiac Laboratory, St. Elizabeth's Hospital, Boston, Massachusetts; Assistant Professor of Medicine, Tufts University, Boston, Massachusetts. Marriott Inn, Providence, R.I., 9:00 a.m. to 5:00 p.m. For further information, contact the R.I. Affiliate of the American Heart Association, attention Mr. Dave Chatel, 728-5300.

APRIL

14 "EXPRESSION OF SICKLE CELL DISEASE IN INFANCY," Audrey K. Brown, M.D., State University of NYC — Downstate. Pediatric Teaching Rounds, Kay Auditorium, Roger Williams General Hospital. 10:30 a.m. to 12:00 p.m.

15 "MANAGEMENT OF THE ALCOHOLIC PATIENT," Kenneth H. Williams, M.D., Associate Professor of Psychiatry and Internal Medicine, Univ. of Pittsburg School of Medicine; Director, Alcohol-Drug Abuse Clinic, Western Psychiatric Institute and Clinic, Pittsburg, Pa. Seminar 10-12 noon. AV Room, Newport Hospital.

26 SYMPOSIUM ON ARTHRITIS ENTITLED "MANAGEMENT OF COMMON RHEUMATIC DISEASES." Symposium will include lectures and workshops for the primary care physician and health care professional. Sponsored by the Brown University Program in Medicine, The Rheumatology Center of the Roger Williams General Hospital and the Rhode Island Chapter of the Arthritis Foundation. Registration 8:30 a.m. Lectures 9:00 a.m. to 4:00 p.m. Sheraton Islander, Goat Island, Newport, R.I. For further information, contact Dorothy Rosenberg 456-2069.

MAY

6 "NUCLEAR MEDICINE IN MEDICAL AND SURGICAL PRACTICE," Henry N. Wagner, M.D., Professor of Medicine, Radiology and Environmental Health, Johns Hopkins Medical School; Head, Division of Nuclear Medicine and Radiation Health, Johns Hopkins Medical Institutions. Seminar 10-12 noon. Luncheon follows at noon to 1 p.m., Pier Restaurant, Newport, Those wishing to attend this Newport Hospital Postgraduate Medical Seminar who are not members of the Newport Medical Society are welcome. However, they should call Mrs. Elizabeth Cranston, 1-401-846-6400, Ext. 445 for luncheon reservations. There is a charge of $7.00 per person for non-members.

12 "MANAGEMENT OF INCREASED INTRACRANIAL PRESSURE," Charles Barlow, M.D., Harvard Medical School. Pediatric Teaching Rounds, Kay Auditorium, Roger Williams General Hospital. 10:30 a.m. to 12:00 p.m.

JUNE

9 "THYROID DISEASE IN CHILDREN," Robert M. Blizzard, M.D., University of Virginia Medical School. Pediatric Teaching Rounds, Kay Auditorium, Roger Williams General Hospital. 10:30 a.m. to 12:00 p.m.

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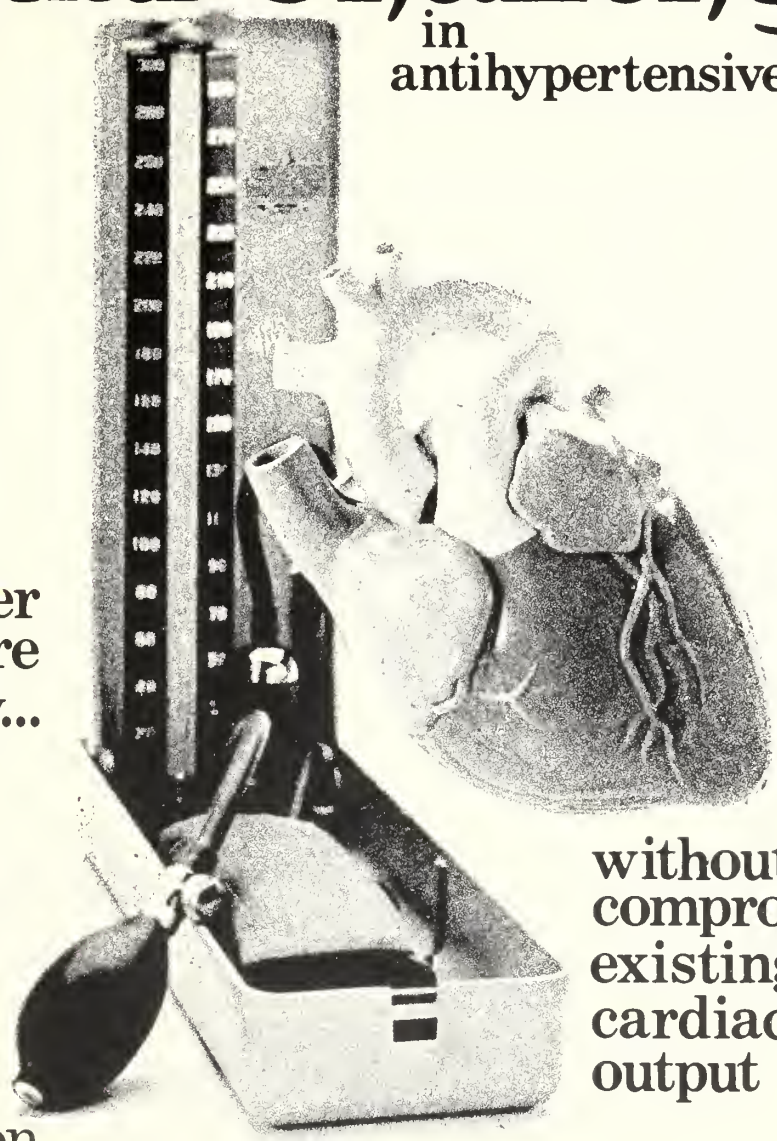

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lead to potentially fatal complications unless properly recognized and managed. For more
s see the brief summary of prescribing information.

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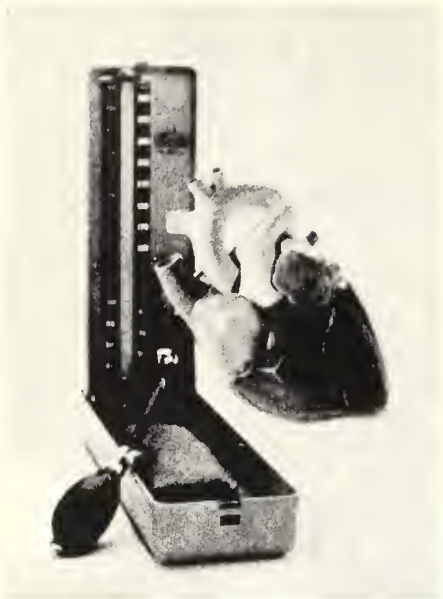

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Contraindications: Active hepatic disease, such as acute hepatitis and active cirrhosis; if previous methyldopa therapy has been associated with liver disorders (see Warnings); hypersensitivity.

Warnings: It is important to recognize that a positive Coombs test, hemolytic anemia, and liver disorders may occur with methyldopa therapy. The rare occurrences of hemolytic anemia or liver disorders could lead to potentially fatal complications unless properly recognized and managed. Read this section carefully to understand these reactions.

With prolonged methyldopa therapy, 10% to 20% of patients develop a positive direct Coombs test, usually between 6 and 12 months of therapy. Lowest incidence is at daily dosage of 1 g or less. This on rare occasions may be associated with hemolytic anemia, which could lead to potentially fatal complications. One cannot predict which patients with a positive direct Coombs test may develop hemolytic anemia. Prior existence or development of a positive direct Coombs test is not in itself a contraindication to use of methyldopa. If a positive Coombs test develops during methyldopa therapy, determine whether hemolytic anemia exists and whether the positive Coombs test may be a problem. For example, in addition to a positive direct Coombs test there is less often a positive indirect Coombs test which may interfere with cross matching of blood.

At the start of methyldopa therapy, it is desirable to do a blood count (hematocrit, hemoglobin, or red cell count) for a baseline or to establish whether there is anemia. Periodic blood counts should be done during therapy to detect hemolytic anemia. It may be useful to do a direct Coombs test before therapy and at 6 and 12 months after the start of therapy. If Coombs-positive hemolytic anemia occurs, the cause may be methyldopa and the drug should be discontinued. Usually the anemia remits promptly. If not, corticosteroids may be given and other causes of anemia should be considered. If the hemolytic anemia is related to methyldopa, the drug should not be reinstituted. When methyldopa causes Coombs positivity alone or with hemolytic anemia, the red cell is usually coated with gamma globulin of the IgG (gamma G) class only. The positive Coombs test may not revert to normal until weeks to months after methyldopa is stopped.

Should the need for transfusion arise in a patient receiving methyldopa, both a direct and an indirect Coombs test should be performed on his blood. In the absence of hemolytic anemia, usually only the direct Coombs test will be positive. A positive direct Coombs test alone will not interfere with typing or cross matching. If the indirect Coombs test is also positive, problems may arise in the major cross match and the assistance of a hematologist or transfusion expert will be needed.

Fever has occurred within first 3 weeks of therapy, occasionally with eosinophilia or abnormalities in liver function tests, such as serum alkaline phosphatase, serum transaminases (SGOT, SGPT), bilirubin, cephalin cholesterol flocculation, prothrombin time, and bromsulphalein retention. Jaundice, with or without fever, may occur, with onset usually in the first 2 to 3 months of therapy. In some patients the findings are consistent with those of cholestasis. Rarely fatal hepatic necrosis has been reported. These hepatic changes may represent hypersensitivity reactions; periodic determination of hepatic function should be done particularly during the first 6 to 12 weeks of therapy or whenever an unexplained fever occurs. If fever and abnormalities in liver function tests or jaundice appear, stop therapy with methyldopa. If caused by methyldopa, the temperature and abnormalities in liver function characteristically have reverted to normal when the drug was discontinued. Methyldopa should not be reinstituted in such patients.

Rarely, a reversible reduction of the white blood cell count with primary effect on granulocytes has been seen. Reversible thrombocytopenia has occurred rarely. When used with other antihypertensive drugs, potentiation of antihypertensive effect may occur. Patients should be followed carefully to detect side reactions or unusual manifestations of drug idiosyncrasy.

Pregnancy and Nursing: Use of any drug in women who are or may become pregnant or intend to nurse requires that anticipated benefits be weighed against possible risks; possibility of fetal injury or injury to a nursing infant cannot be excluded. Methyldopa crosses the placental barrier, appears in cord blood, and appears in breast milk.

Precautions: Should be used with caution in patients with history of previous liver disease or dysfunction (see Warnings). May interfere with measurement of: urinary uric acid by the phosphotungstate method, serum creatinine by the alkaline picrate method, and SGOT by colorimetric methods. Since methyldopa causes fluorescence in urine samples at the same wavelengths as catecholamines, falsely high levels of urinary catecholamines may be reported. This will interfere with the diagnosis of pheochromocytoma. It is important to recognize this phenomenon before a patient with a possible pheochromocytoma is subjected to surgery. Methyldopa is not recommended for patients with pheochromocytoma. Urine exposed to air after voiding may darken because of breakdown of methyldopa or its metabolites.

Stop drug if involuntary choreoathetotic movements occur in patients with severe bilateral cerebrovascular disease. Patients may require reduced doses of anesthetics; hypotension occurring during anesthesia usually can be controlled with vasopressors. Hypertension has recurred after dialysis in patients on methyldopa because the drug is removed by this procedure.

Adverse Reactions: *Central nervous system:* Sedation, headache, asthenia or weakness, usually early and transient; dizziness, lightheadedness, symptoms of cerebrovascular insufficiency, paresthesias, parkinsonism, Bell's palsy, decreased mental acuity, involuntary choreoathetotic movements; psychic disturbances, including nightmares and reversible mild psychoses or depression.

Cardiovascular: Bradycardia, aggravation of angina pectoris. Orthostatic hypotension (decrease daily dosage). Edema (and weight gain) usually relieved by use of a diuretic. (Discontinue methyldopa if edema progresses or signs of heart failure appear.)

Gastrointestinal: Nausea, vomiting, distention, constipation, flatus, diarrhea, mild dryness of mouth, sore or "black" tongue, pancreatitis, sialadenitis.

Hepatic: Abnormal liver function tests, jaundice, liver disorders.

Hematologic: Positive Coombs test, hemolytic anemia. Leukopenia, granulocytopenia, thrombocytopenia. Positive tests for antinuclear antibody, LE cells, and rheumatoid factor.

Allergic: Drug-related fever, lupus-like syndrome, myocarditis.

Other: Nasal stuffiness, rise in BUN, breast enlargement, gynecomastia, lactation, impotence, decreased libido, dermatologic reactions including eczema and lichenoid eruptions, mild arthralgia, myalgia.

Note: Initial adult dosage should be limited to 500 mg daily when given with antihypertensives other than thiazides. Tolerance may occur, usually between second and third months of therapy; increased dosage or adding a diuretic frequently restores effective control. Patients with impaired renal function may respond to smaller doses. Syncope in older patients may be related to increased sensitivity and advanced arteriosclerotic vascular disease; this may be avoided by lower doses.

How Supplied: Tablets, containing 125 mg methyldopa each, in bottles of 100; Tablets, containing 250 mg methyldopa each, in single-unit packages of 100 and bottles of 100 and 1000; Tablets, containing 500 mg methyldopa each, in single-unit packages of 100 and bottles of 100 and 500.

For more detailed information, consult your MSD representative or see full prescribing information.
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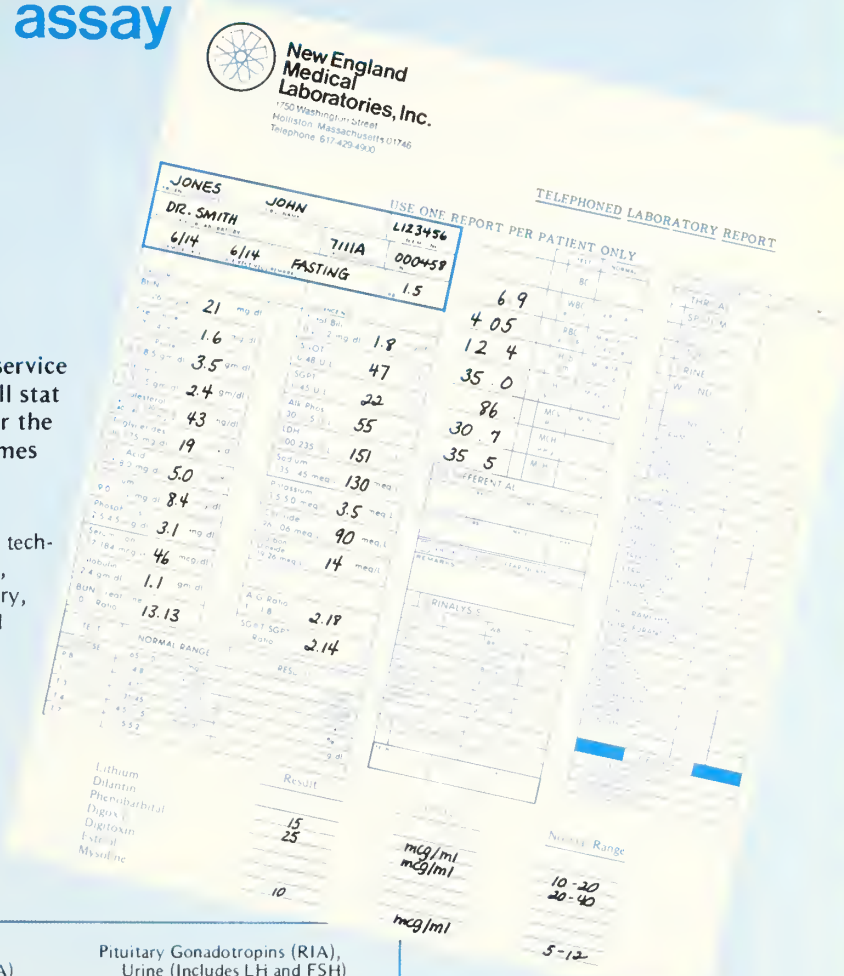

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- FTA/ABS
- Gastrin
- Haptoglobin
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- High Density Lipoprotein
- 17-Hydroxycorticosteroids (17-OH)
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- Immunoglobulins A, G, M
- Insulin (RIA)
- 17-Ketosteroids (17-Keto)
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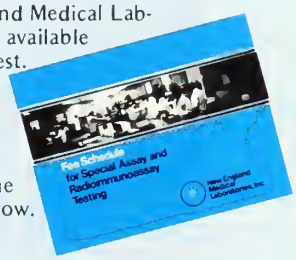

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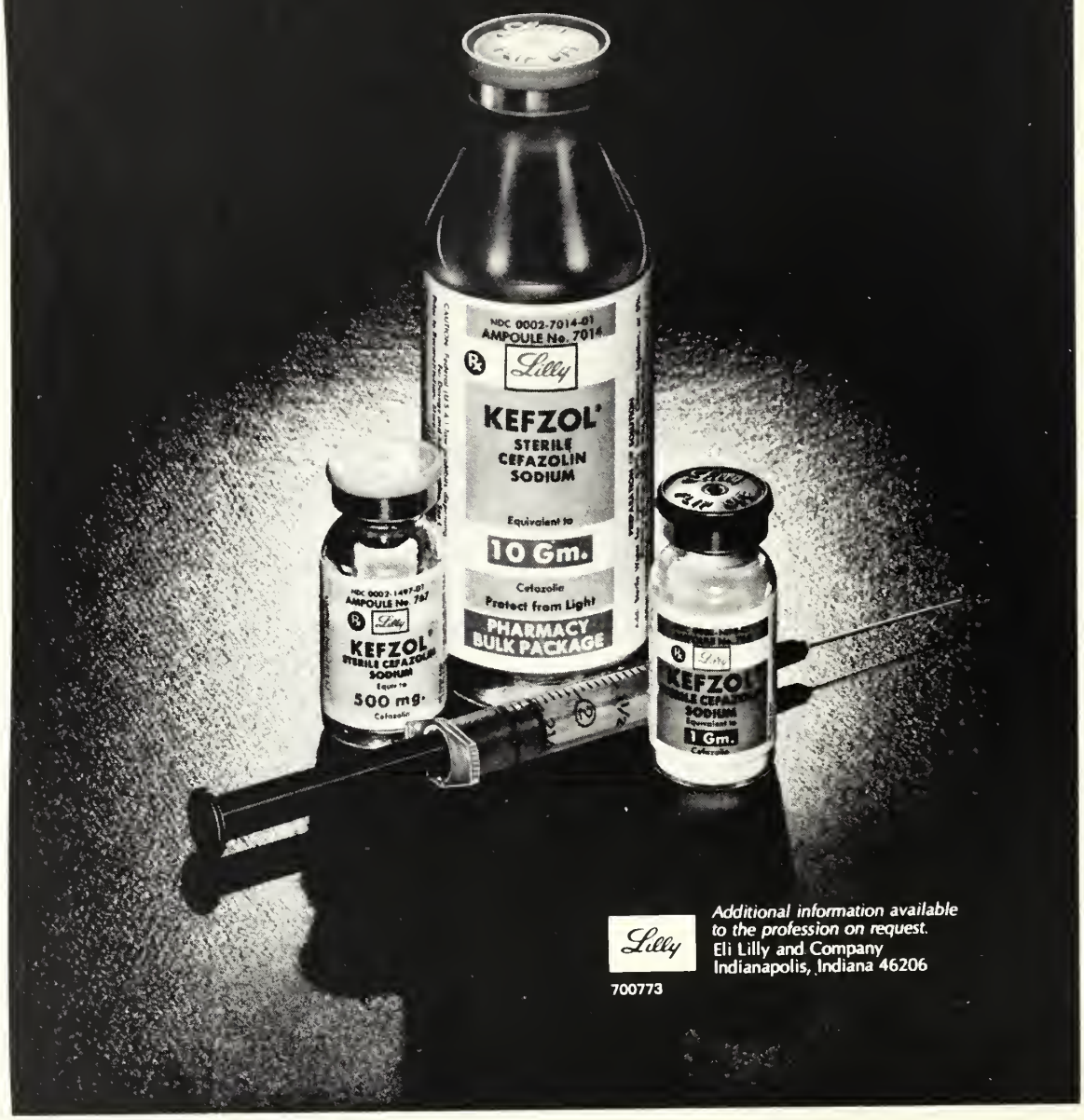

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A Central Aorto-Pulmonary Artery Shunt For Cyanotic Neonates

Procedure Is Logical For Infants In Need Of An Increase In Pulmonary Flow

By Arun K. Singh, M.D., FRCS (C), George N. Cooper, Jr., M.D., Robert D. Corwin, M.D., Lester L. Vargas, M.D., Karl E. Karlson, M.D.,Ph.D.

Some sort of systemic to pulmonary artery shunt is necessary for the survival of many cyanotic heart diseases in infancy. The small size of the subclavian artery in neonates often precludes its use (Blalock-Taussig). The ascending aorta to right pulmonary artery (Waterston) shunt has yielded remarkable palliation, but frequently is associated with kinking of the pulmonary artery which can complicate the subsequent total repair. Recently we have performed central aortopulmonary artery shunts in two neonates with resulting good rise in Pa0 and functioning shunt murmurs. The advantages of such shunts are shorter operating time, less trauma to the lung, equal perfusion of both lungs, preservation of the subclavian artery which is sacrificed in the Blalock procedure and easy closure at the time of complete repair.

Despite generally improved results of correction of cyanotic congenital heart anomalies in small infants,[1] [2] certain lesions are not amenable to primary repair.[3] [4] Some sort of systemic to pulmonary artery shunt is necessary for their survival. The traditional shunt operations have had significant immediate problems as well as long-term complications.[3] Recently we have performed central shunts between the ascending aorta and main pulmonary artery during the first 48 hours of life, either directly or by using a polytetrafluoroethylene arterial prosthesis. Both of these babies had satisfactory palliation with marked improvement in systemic oxygenation. However, one died on the 13th postoperative day after a spontaneous intracranial hemorrhage. In this report we describe our experience with these two neonates with central shunt operations.

From the Departments of Surgery and Pediatrics, Rhode Island Hospital and Brown University. Division of Biology and Medicine.

CASE REPORTS

Patient 1 CP, a female infant, was delivered by Caesarean section at full term and weighed 4.1 kg. At birth a cyanotic episode was noted on crying. Examination revealed respirations of 50/minute, pulse 140/minute, circumoral cyanosis, and a grade 3/6 systolic ejection murmur along the left sternal border. The electrocardiogram showed a Q wave in V-6-7 and possible right ventricular loading. A chest x-ray showed dextrocardia with apex pointing towards right, decreased pulmonary vascularity, and stomach shadow toward the left.

At three days of age, she underwent cardiac catheterization and biplane cineangiocardiography which showed dextrocardia, L-transposition of the great arteries, ventricular septal defect and pulmonary atresia. While we were preparing for the operation, the baby suffered a cardiac arrest. She was successfully resuscitated and taken to the operating room. An intravenous drip delivering small amounts of epinephrine (0.1 mcg/min) was started. The hemodynamics and blood gases were monitored.

Exposure was accomplished through a median sternotomy incision. It was found that the main pulmonary artery (MPA) was atretic. A 3.5 mm side-to-side central aortopulmonary shunt was created at the bifurcation of the MPA using a partial occluding clamp. The anastomosis was done with 7-0 Prolene.® A graft was not used because the aorta and pulmonary artery were side by side and came together with ease. Patient's postoperative course was uncomplicated. The Pa0 rose from a preoperative level of 18mm Hg to the range of 50-55 mm Hg. Patient was mechanically ventilated for 48 hours, at which time a repeat angiogram showed an open shunt with good perfusion of both pulmonary arteries (Figure 1). Mechanical ventilation was gradually discontinued. Digoxin® was administered after the development of pulmonary congestion. She is now 18 months postoperative, heart size is slightly enlarged, there is good perfusion of both lungs without pulmonary congestion, and she receives no medication. Her color remains good, she weighs 12 kg and has good exercise tolerance.

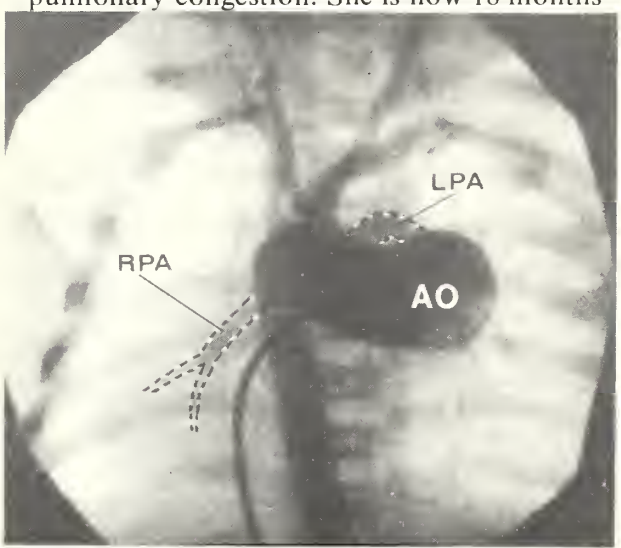

Figure 1 Post-operative aortogram — both pulmonary arteries fill through the central shunt.
AO — Aorta
RPA — Right pulmonary artery
LPA — Left pulmonary artery

Patient 2 BL, a female infant, was delivered of a diabetic mother by Caesarean section at approximately the 30th week of pregnancy. The baby weighed 1.1 kg at birth. Cyanosis was noted, and an APGAR score of 1-3 was recorded. There was no heart murmur on auscultation, but chest x-ray study showed decreased lung perfusion and a right aortic arch. Pa0 on room air was 15-20 mm Hg. The baby remained hypoxemic and gradually became acidotic. A cardiac catheterization and angiocardiogram were carried out 18 hours after birth, which showed tetralogy of Fallot with pulmonary atresia and right aortic arch. Central venous and arterial catheters were placed, and pressures and blood gases were monitored. The patient was intubated and mechanically ventilated. An epinephrine drip (0.1 mcg/min) was started to maintain higher systemic blood pressure and to increase the left to right shunt.

Through a median sternotomy incision only the upper portion of the pericardial sac covering the great vessels was exposed. A central aortopulmonary artery shunt was created between the ascending aorta and main pulmonary artery at the level of the bifurcation using a 2.5 cm long 4mm internal diameter polytetrafluoroethylene (GORETEX®)* graft. The anastomosis was carried out with 7-0 Prolene® using microvascular technique.

Postoperatively the baby was mechanically ventilated. There was a good shunt murmur, and both lungs were perfused. She was started on Digoxin,® and occasionally Lasix® was administered because of some degree of pulmonary congestion. The ventilation was gradually discontinued, and she was extubated on the sixth day. On the eighth postoperative day patient began having seizures associated with apneic episodes. The Pa0 remained in the range of 40-50 mm Hg. The lung fields were clear. She was reintubated and ventilated. Gradually she became placid, and spontaneous breathing ceased. She died on the thirteenth

*W.L. Gore and Associates, Inc., Flagstaff, Arizona

postoperative day. Autopsy confirmed the diagnosis of tetralogy of Fallot with pulmonary atresia. There was a large intracranial hemorrhage, giving rise to the neurological problems and death.

DISCUSSION

Aortopulmonary shunts of conventional type such as subclavian to pulmonary artery (Blalock-Taussig) or ascending aorta to right pulmonary artery (Waterston), have yielded remarkable palliation.[3 5 8] However, there are associated problems with these shunts, especially in neonates.[3 7] The subclavian-pulmonary artery shunt is difficult to perform in the neonate and commonly yields an inadequate shunt flow.[3] Shunts of the Waterston type are frequently constructed in such fashion that there is a kink at the anastomatic site.[5 6] This results in a low shunt flow and preferential shunt flow to the right lung.[5 6 9] These shunts also frequently present problems at closure or reconstruction of the pulmonary artery when definitive operation is carried out.[5 6] As described in this report, and that of Gazzangia et al,[10] a central shunt can be fashioned rapidly and safely in neonates by carefully constructing the anastomosis using a micro-vascular technique.

Since these babies are in a low cardiac output state, a mild drift in rectal temperature toward 34° may be beneficial as compensation for the hypoxemia. We prefer a small amount of epinephrine by drip prior to operation to raise the systemic blood pressure, which will in turn increase the left-to-right shunt and thus increase oxygenation.

The central shunt has the advantage of perfusing both lungs equally, since it is constructed at the bifurcation of the pulmonary artery. Therefore, equal growth of both pulmonary arteries may expected. The pleural cavities are not entered, and there is no trauma to the lung. The shunt can be easily closed at a later date either from inside the aorta or by ligating the shunt. An additional advantage is that the autogenous subclavian artery is not sacrificed as in the Blalock-Taussig shunt.

If a graft is used for creating a central shunt, it is important that the graft is not kinked and is beveled.[11] By beveling the graft the diameter of the anastomatic site is increased without altering the size of the lumen at the central portion of the graft, preventing anastomotic stricture and thereby increasing the patency rate. We believe that the central shunt is a logical choice for infants in need of an increase in pulmonary blood flow.

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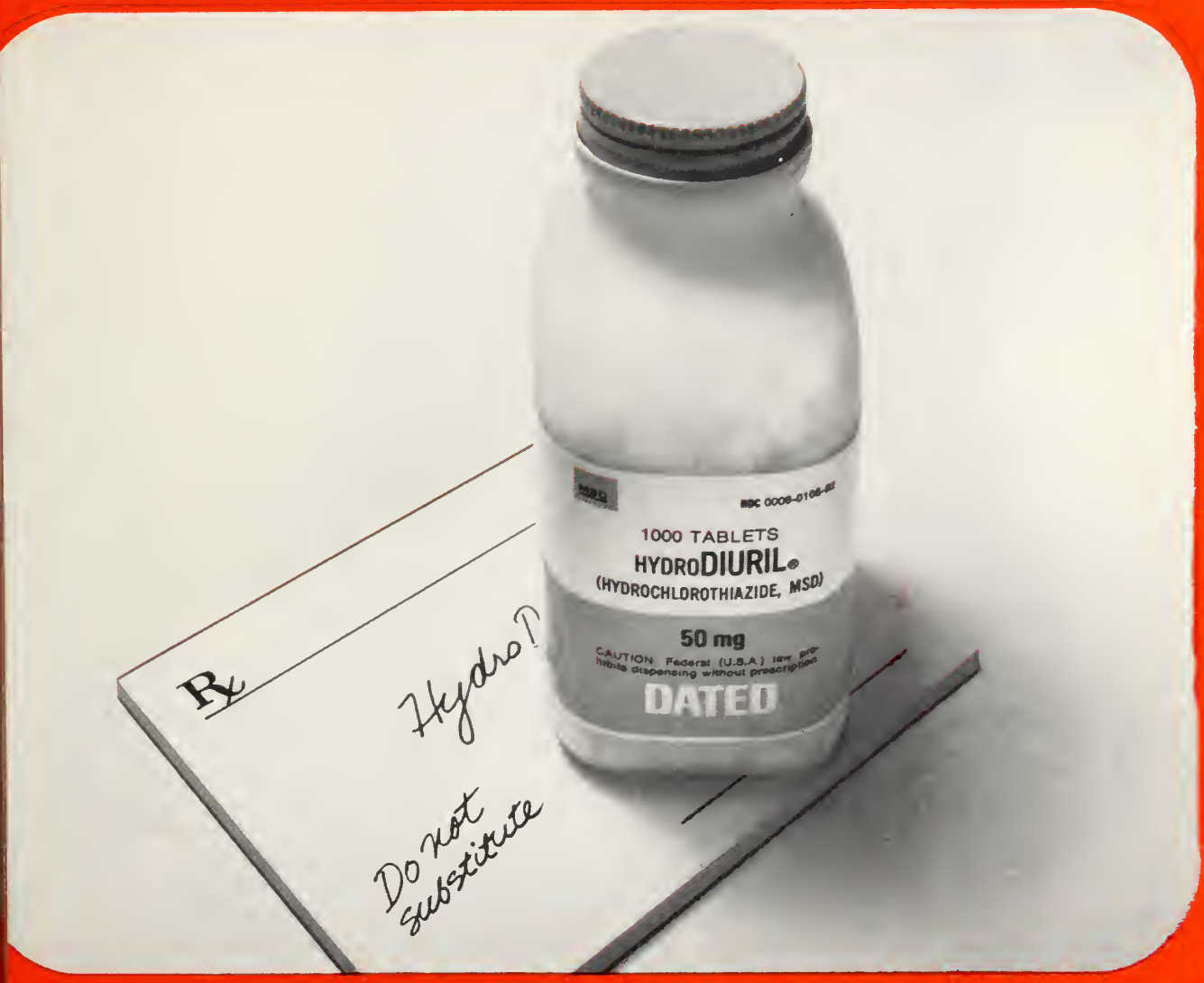

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Surgical Management Of Coronary Artery Disease

Cardiac Surgery Will Continue To Have An Important Role In The Management Of Substantial Numbers Of Patients With Coronary Artery Disease

By Robert L. Berger, M.D.
Dusan B. Dobnik, M.D.
John R. McCormick, M.D.

Coronary artery disease is the major cause of death and disability in the United States. More than 600,000 persons die of this disease each year, and one-third of them are under age 65. By comparison, cancer of all organ systems, the second most common cause of death, kills less than half as many persons. It is estimated that 5,000,000 people in this country suffer some degree of disability from angina pectoris.

The implications of these statistics are twofold. Programs to prevent the development of coronary artery disease, along with effective treatment for patients with established pathology, are needed. Fortunately, in the great majority of patients the clinical manifestations are produced by simple mechanical obstructions in the major coronary trunks. Such obstructions are frequently partial and damage to the myocardium is relatively uncommon. Related to the predominantly mechanical features and to adverse impact of this disease on the health of this nation, cardiac surgeons have for several decades attempted to devise an operative approach to coronary artery disease. The early procedures to increase myocardial blood flow were designed to cause ingrowth of small blood vessels into the myocardium. The ideas behind these attempts were often ingenious and attractive, and were frequently supported by experimental data. The performance of the early operations, in view of the infant status of cardiac surgery at that time, were daring and courageous. The relief of angina pectoris for a short period was often impressive. Usually, however, after the first few postoperative months, symptoms returned with their preoperative severity.

As we now reflect on these early days of cardiac surgery for coronary artery disease, it is apparent that a major handicap was the lack of an objective tool to assess the extent of disease and the impact of a given treatment on the basic pathology. Consequently the introduction of coronary arteriography by Sones at the Cleveland Clinic early in the 1950s represented a giant forward step. For the first time a practical clinical method to opacify coronary arteries became available. With this technique the site and severity of obstruction could be identified, a rational approach to patient selection was facilitated, and objective evaluation of the results of surgery became a

From the Departments of Cardiothoracic Surgery and Anesthesia, University Hospital and Boston University School of Medicine. Supported in part by the Norwich Thoracic Research Fund. Presented at Rhode Island Hospital on March 26, 1977 under the auspices of the House Officers' Association.

reality. Indeed, by coronary arteriography, it was demonstrated that internal mammary artery implantation into a myocardial tunnel (Vineberg procedure) resulted in patent grafts in two-thirds of the patients. One-half of the patent grafts eventually established a connection with the native coronary artery circulation. However, soon we learned that blood flow in mammary artery implants was only of the nature of 10-15 ml/min, and it became apparent that the most effective technique to improve myocardial blood flow would be through direct operations on the major epicardial blood vessels.

Improvements in microvascular surgical technique made it feasible to operate directly on relatively small coronary arteries with a diameter of 1 to 3 mm. At the same time direct coronary artery surgery went through a period of evolution until the end-to-side anastomosis and bypass graft principle emerged using either the saphenous vein or internal mammary artery for conduits. The end-to-side communication allows the size of the junction between graft and native coronary artery to be made larger than the diameter of either of the two, while the bypass technique has the advantages of leaving existing blood flow in the native coronary artery circulation intact. Concurrent advances in extracorporeal mechanical cardiopulmonary bypass during the past ten years contributed heavily to the development of direct coronary artery surgery, which has evolved into a highly safe and effective operation.

The coronary bypass operation has been successfully applied in a large number of patients with coronary artery disease because the underlying atherosclerotic process provides a favorable anatomic condition. The pathology in the coronary arteries is usually proximal in location. We studied 300 hearts with stenosed coronary arteries at autopsy and found that in the left anterior descending and circumflex coronary arteries the lesions were proximal in the overwhelming majority, while in the right coronary artery the distribution was more even. In the 300 hearts with 900 major vessels, 578 were stenosed and 386, or 67 per cent had proximal lesions that would have been suitable for bypass graft surgery. Total correction or bypassing of all of the stenosed vessels would have been possible in 62 per cent of the 300 hearts, while partial correction or grafting of some but not all of the obstructed vessels would have been feasible in an additional 27 per cent. Thus, only in 12 per cent of the hearts would the bypass operation not have been applicable.[1] These anatomic observations have been confirmed by coronary arteriographic studies.[2] Therefore, the topography of the atherosclerotic lesions of coronary artery disease provides a favorable setting for bypass graft surgery.

The stenosis produced by the atherosclerosis should exceed 50 per cent of the luminal diameter of the coronary artery to recommend bypass grafting. Obstructions of lesser severity do not cause a pressure drop and do not result in a reduction in coronary artery blood flow. In addition, the coronary artery wall at the site of anastomosis has to be suitable for suturing, and the distal "runoff bed" in the territory of the grafted vessel has to be patent to receive the flow. Fortunately the microvasculature of the heart is only very rarely affected by the atherosclerotic process and is able to

TABLE I.
Indications for Surgery in Coronary Artery Disease

ACUTE	Sudden Death	P
	Myocardial Infarction	
	Simple	M
	Complicated	
	Arrhythmia	M — ?S
	Power Failure	
	A) Muscle Death	M — ??S
	B) Mechanical Defects: VSD, MR, Aneurysm	M ->S
	Extension — Unstable	M ->S
INTERMEDIATE	Unstable Angina	M ->S
CHRONIC	Stable Angina	
	A) Class I, II	M
	B) Class III, IV	S
	Congestive Failure	
	A) Diffuse Hypokinesia	M
	B) Mechanical Defects	
	Segmental Akinesia — Aneurysm	S
	Mitral Regurgitation	S
	Ventricular Septal Defect	S

Legend:

P=Prevention
M=Medical
S=Surgical
VSD=Ventricular Septal Defect
MR=Mitral Regurgitation

accomodate the increased flow channeled through the bypass graft.

INDICATIONS FOR SURGERY

Bypass surgery for patients with coronary artery disease began in the late 1960s, and now the indications are fairly well defined, although in certain circumstances the role of surgery is still controversial. Table I lists the different forms of clinical presentation of this disease and indicates the most commonly accepted form of therapy. Most surgeons agree that there is no indication for operation in uncomplicated acute myocardial infarction. The overwhelming majority of arrhythmias associated with myocardial infarctions are treated effectively with appropriate drugs. Very occasionally, when the abnormal rhythm is refractory to medical management and is life threatening, resection of an akinetic or dyskinetic segment of the left ventricle as the suspected source for the irritability is recommended. Intraaortic balloon support is useful as temporary protection during coronary arteriography and preparation for surgery. Cardiogenic shock produced by myocardial infarction usually implies destruction of at least 40 per cent of the ventricular muscle mass, and the mortality is 80-95 per cent with medical treatment. Several years ago there was enthusiasm in some medical centers for early intraaortic balloon assist, urgent cardiac catheterization, and emergency revascularization of the coronary arteries, if the anatomical findings were suitable. However, the operative approach has been abandoned gradually because, unfortunately, the mortality in the surgical group was still 60-70 per cent. A small subgroup representing 5-10 per cent of patients with cardiogenic shock or congestive heart failure after myocardial infarction have mechanical problems, such as a ruptured ventricular septum or mitral incompetence from papillary muscle dysfunction. In these cases more aggressive therapy is indicated. With these two lesions the intraaortic balloon, in addition to increasing coronary blood flow and improving total body tissue perfusion, also improves cardiac performance by reducing left ventricular afterload. The lowered impedance to left ventricular ejection decreases the left-to-right shunt through the ventricular septal defect and lowers the regurgitant fraction through the incompetent mitral valve. The favorable hemodynamic changes permit safer cardiac catheterization, as well as a lower operative mortality.

Approximately 15 per cent of patients with angina pectoris in our institution present with the intermediate syndrome or unstable angina. This entity includes a number of poorly defined clinical conditions, often called accelerated or progressive angina, preinfarction angina, acute coronary insufficiency, or angina decubitus. The common feature in this group is a change in pattern either from stable angina pectoris or from an asymptomatic state to prolonged pain at rest, with or without electrocardiographic signs, in the absence of electrical or enzyme changes to indicate myocardial necrosis. Since in some patients the pain is a prelude to acute myocardial infarction, while in others an unstable history can be elicited retrospectively after an acute myocardial infarction, the name of preinfarction angina was coined. The presently employed terminology, however, is confusing and does not describe the clinical presentation accurately. A workable classification for the intermediate syndrome is proposed in Table II. Patients in Class I, II, or III respond to medical therapy, and coronary angiography followed by cardiac surgery, if indicated, may be performed on a semi-elective basis after control of symptoms, but during the same hospital admission. A patient with the intermediate syndrome characterized as Class IV is a candidate for urgent placement of the intraaortic balloon and catheterization, followed by cardiac surgery if the angiographic findings indicate favorable anatomy for bypass.

The largest group of patients, 80-85 per cent of those having surgery, have chronic

TABLE II.
The Intermediate Syndrome

Class I	New Onset or accelerating angina.
Class II	Rest pain in hospital without ECG changes.
Class III	Rest pain in hospital with ECG changes.
Class IV	Rest pain in hospital refractory to drug therapy

symptoms of coronary artery disease. Those with severe debilitating angina despite good medical management (Class III or Class IV, Canadian Classification) are candidates for operation. Currently the Class I and II patients with only mild to moderate symptoms are treated medically. If clear documentation that bypass surgery prolongs life and prevents myocardial infarction becomes available, a surgical approach would also be in order in these patients. Patients with coronary artery disease who have chronic congestive heart failure from diffuse ventricular scarring are not surgical condidates unless they have associated anginal pain. If the heart failure is associated with a mechanical defect such as ventricular aneurysm, mitral incompetence, or ventricular septal defect, operation is indicated.

UNIVERSITY HOSPITAL EXPERIENCE

To illustrate a representative series of surgically managed patients with coronary artery disease, our experience during a recent period at University Hospital is presented. Table III shows the age distribution of the patients, with the largest segment of the population in the sixth decade. The male to female ratio is 4 to 1. It is relevant to note that 61 per cent of the group had at least one previous myocardial infarction. Most of the patients presented with functional Class III or Class IV angina pectoris. The clinical presentation is listed in Table IV demonstrating that the large majority of patients had surgery for chronic disabling angina pectoris. Table V shows that over 80 per cent of the group had double or triple vessel disease, and 12 per cent had involvement of the left main coronary artery. The degree of impairment in left ventricular functions in terms of left ventricular end diastolic pressure and ejection fraction is shown in Table VI. The left ventricular

TABLE III.
Surgery in Coronary Artery Disease
Age Distribution

Decade	#	%
3rd	1	.3
4th	34	10.5
5th	93	29.0
6th	138	42.9
7th	53	16.4
8th	3	.9
Total	322	100

Male:Female 78:22

TABLE V.
Extent of Coronary Artery Disease

# Vessel Diseased	Number	Percent
1	53	16
2	131	41
3	138	43
Left Main	34	11

2.4 Lesions per Patient.

Patients with left main disease are classified as such, and in addition as to number of vessels diseased.

TABLE IV.
Surgery in Coronary Artery Disease
Clinical Presentation

Chronic Stable Angina		253
Intermediate Syndrome		55
Without AMI	43	
Post AMI	12	
Acute		14
Cardiogenic Shock	4	
Acute M.R.	3	
VSD	7	
Total		*322*

Legend:

AMI = acute myocardial infarction
MR = mitral regurgitation
VSD = ventricular septal defect

TABLE VI.
Left Ventricular Function

LVEDP mm. Hg.	% of Total	Impairment	EF %	% of Total
< 13	52	None	> 60	49
14-18	29	Mild	50-60	25
19-24	16	Moderate	35-49	19
> 25	3	Severe	< 35	7

Segmental Impairment of Motility 53%

Legend:
LVEDP = left ventricular end diastolic pressure
EF = ejection fraction

function was normal in one half of the patients, while the other half had varying degrees of impairment. Table VII shows that coronary artery bypass grafting alone was the most frequently performed operation. Endarterectomy combined with bypass grafting was usually performed on the right coronary artery when this vessel was completely obstructed and bypass grafting alone technically would not have been possible. The reported patency rate from combined endarterectomy and bypass grafting is not uniform, but in some series it approximates that of bypass grafts to nonendarterectomized arteries. Twelve per cent of the group had resection of akinetic or dyskinetic areas of the left ventricle combined with coronary artery bypass grafts. Because of the low incidence of severe mitral regurgitation from papillary muscle dysfunction and rupture of the ventricular septum, our experience with these lesions is limited.

Table VIII summarizes the results of surgery for the different groups of patients. The mortality rate for elective coronary bypass operation is quite low. Of particular interest is the zero mortality in 34 patients with left main coronary artery stenosis operated upon without intraaortic balloon support. Because of this gratifying experience we do not believe routine use of the intraaortic balloon during revascularization for this lesion, as proposed by other groups, is warranted. A most critical segment of the operation in patients with left main coronary artery disease is the time from induction of anesthesia to institution of cardiopulmonary bypass. We attribute our good results in this group, in part, to excellent management by the anaesthesiologists and their careful ability to maintain a stable hemodynamic state. The results in the intermediate syndrome are worse than with stable angina pectoris, but in view of the guarded prognosis with medical treatment and the more precarious state of these patients, a 5 per cent operative mortality is acceptable. Our experience with cardiogenic shock and with mechanical problems is a modest one but clearly illustrates that some of these patients who face a greater than 90 per cent mortality with medical treatment, may be saved by operation.

TABLE VII.
Procedures for Coronary Artery Disease in 322 patients

	Number	Percent
CABG	311	96
CABD+Endarterectomy	46	14
LV Resection±CAB	37	12
MVR±CABG	3	1
VSD±CAB	7	2

Legend:
CABG = coronary artery bypass graft
LV = left ventricular
MVR = mitral valve replacement
VSD = closure ventricular septal defect

ANALYSIS OF THE RESULTS OF CORONARY ARTERY BYPASS GRAFTING

An assessment of the value of coronary artery surgery must examine operative mortality and morbidity, physiologic changes in cardiac function, relief of symptoms, prevention of myocardial infarction, and an increase in longevity. Although all the data are not available as yet, certain facts have been established from a ten-year experience with direct coronary artery surgery. The limited number of operations for life threatening arrhythmias related to acute myocardial infarction produced an approximate 50 per cent success rate.[3] Revascularization failed to produce

TABLE VIII.
Surgery in Coronary Artery Disease
Operative Mortality

Elective	Number	Death	Percent
CABG	215	4	1.8
CABG LV resection	38	1	2.7
CABG for Left Main	34	0	0.0
Urgent-Emergent			
Intermediate Syndrome	55	3	5.4
CABG for Cardiogenic Shock	4	2	50
MVR±CABG	3	1	33
VSD Repair	7	2	28

Legend:
CABG = coronary artery bypass graft
LV = left ventricular
MVR = mitral valve replacement
VSD = ventricular septal defect

significant improvement in the survival rate of patients with cardiogenic shock from massive acute myocardial infarction, but the salvage in cases of ruptured ventricular septum and mitral regurgitation due to papillary muscle infarct has been most impressive.[4]

Both our own and the national experience demonstrate that the operative mortality of elective myocardial revascularization for stable angina pectoris in patients with reasonably good left ventricular function should be in the vicinity of 2 per cent[5]. With severe impairment of left ventricular function the operative risk is higher and may reach 2530 per cent. When the operation is performed for the intermediate syndrome, a mortality in the vicinity of 4-5 per cent is acceptable.[6]

The major morbidity associated with coronary artery surgery is perioperative myocardial infarction. Since the usual parameters employed to make this diagnosis are distorted by the operation, the actual incidence of this complication is difficult to determine. Incisional pain or medication given after operation may mask the ischemic distress of an acute myocardial infarction. Specific myocardial enzymes are frequently present in the serum after open cardiac surgery from tissue manipulation in the absence of ischemic myocardial necrosis. Nonspecific electrocardiographic ST-T segment changes as well as different types of conduction disturbances occur after cardiac surgery. For these reasons we are left with the appearance of new Q-waves as the single most reliable indicator of a perioperative myocardial infarction. This event is seen in 5 to 15 per cent of patients having coronary artery surgery.[7] Curiously, the infarct is frequently in the territory of a non-grafted patent vessel. Furthermore, the correlation between graft patency and the occurrence of perioperative infarction is poor. Fortunately in most instances it does not compromise cardiac performance, and the patients usually have an uneventful postoperative course. It is felt that these infarctions are related to inadequate protection of the myocardium during the operation, and indeed extensive research efforts are in progress to improve on present techniques. The other complications of coronary artery surgery are those that are associated with any operation. They are usually self-limiting or treatable, and do not have significant adverse effect on the patient.

Total coronary blood flow to the normal heart under resting conditions is approximately 5 per cent of the cardiac output, or 200-300 ml/min. Since the volume is carried in three major trunks, the average flow in each coronary artery is between 60 to 100 ml/min. Measurement of graft flow after coronary artery bypass surgery using an electromagnetic flowmeter shows that flows of this magnitude are quite common, and thus a patent bypass graft serves as an adequate substitute for the native vessel. Graft patency is enhanced by flawless surgical technique, adequate size (greater than 1.5 mm), and relative lack of disease in the coronary artery at the site of the anastomosis, as well as a sufficient runoff bed. Indeed, the probability of a patent bypass graft has been demonstrated to be increased if the measured blood flow is greater than 30 ml/min. Since assessment of graft patency is important in the overall evaluation of operative results, a group of patients undergoing surgery at University Hospital was studied by repeat cardiac catheterization within the first four weeks of operation. One hundred per cent of the left anterior descending, 90 per cent of the right, and 70 per cent of the circumflex coronary artery grafts were patent, with an overall early patency rate of 87 per cent. In a sequential study of 100 grafts in 73 consecutive patients,[8] the graft occlusion rate was 12 per cent after two weeks. An additional 23 per cent of bypasses were occluded at one year, and 5 per cent more between one and three years. These data indicate that the highest graft occlusion rate occurs during the first year and that, if the bypass is open at one year, the likelihood of long term patency is good.

Several studies have analyzed changes in exercise tolerance and left ventricular function after coronary artery surgery. Postoperatively, 60 to 90 per cent of patients show improvement in exercise performance, and 50 per cent have conversion of a positive exercise stress test to a negative one.[9] Coronary artery surgery has not resulted in a consistent change in left ventricular performance, at least as measured by

currently employed techniques for assessment of left ventricular function. Sixty per cent of patients show no change, 20 per cent deteriorate, and 20 per cent improve.[10] These data refer to coronary artery bypass surgery alone, since repair of mechanical defects such as resection of akinetic or dyskinetic areas of the left ventricle is more likely to be accompanied by significant improvement in left ventricular function.

The primary indication for coronary artery surgery is disabling angina pectoris, and indeed the symptomatic response to the operation is most impressive. Seventy per cent of patients enjoy total relief from symptoms and 15 per cent significant improvement. In the remaining 15 per cent the operation does not change the severity of angina pectoris.[9] The mechanism of pain relief is debated, but the relief is most likely due to perfusion of previously ischemic muscle resulting from increased blood flow through the coronary artery bypass grafts.

While there is little question about the efficacy of coronary artery surgery for relief of angina pectoris, it remains controversial whether the operation prolongs life or prevents future myocardial infarction. Data sufficient to answer this question with absolute certainty are not available and would best be obtained by a prospective randomized study. In some forms of coronary artery disease, such as the intermediate syndrome and Class III or IV stable angina, the value of coronary artery surgery has been demonstrated so impressively that the procedure has become a well established mode of therapy. Randomization would probably not be accepted. Similarly, patients with stenosis of the left main coronary artery have an expected annual mortality rate of 20-25 per cent with medical management[9] compared to an annual mortality rate of 3-5 per cent in patients treated surgically.[11] Therefore this subset of coronary artery disease also could not be randomized. Respecting stable angina pectoris extensive data based on randomization are lacking. Therefore most often groups of patients treated medically prior to the development of coronary artery bypass surgery are compared with groups currently treated surgically.

Most reports on the prognosis of coronary artery disease treated medically indicate that, with angiographically proven coronary artery disease and a relatively well preserved left ventricle, the annual mortality rate is 2 per cent for single and 8-10 per cent for double or triple vessel disease.[12] Examples of such are contained in a study of almost 600 patients at the Cleveland Clinic.[13] These results have been compared with a 2-4 per cent annual mortality rate after coronary artery bypass surgery in patients with reasonably good left ventricular function. Comparison of data such as these suggests that surgery has a favorable effect on longevity in patients with double and triple but not with single vessel coronary artery disease. In addition to the extent of coronary artery disease, the natural history data from the Cleveland Clinic indicate that the mortality rate is influenced by changes in left ventricular function. A small area of local scarring increases the mortality moderately, while it is increased markedly by diffuse fibrosis or left ventricular aneurysm. For example, the five year cardiac mortality rate with single vessel disease and diffuse ventricular dysfunction or aneurysm was about 60 per cent, but this was increased to 90 per cent in the presence of triple vessel disease and diffuse scarring or aneurysm.[13]

In one of the few randomized studies on stable angina patients completed thus far, the effect of coronary artery bypass surgery on longevity is analyzed in a group of 116 patients.[14] Surgically treated patients fared better with respect to improvement in quality of life and relief of angina pectoris, but there was no significant difference between the two groups in mortality rate or rate of new myocardial infarction during a twenty month interval. Unfortunately the follow-up period is too short and the number of patients too small to draw any significant conclusion from this study. The most widely discussed report on the treatment of chronic stable angina is a prospective randomized study conducted by the Veterans Administration. This study has not shown a statistically significant difference in survival between the medical and surgical groups, although the follow-up, as reported to date, is brief.[15]

As discussed earlier, the intermediate syndrome has not been precisely defined, leading to some difficulty in interpreting the literature. Gazes followed 140 patients with

unstable angina pectoris for ten years.[16] He divided the group into high and low risk subsets, with the high risk subgroup consisting of 54 patients who continued to have typical angina with ischemic ST changes during pain after 48 hours of bed rest and despite maximum therapeutic measures. They responded poorly to nitroglycerin and required frequent doses of opiates. After one year 82 per cent of the entire group of patients were alive with 98 per cent of the low risk, but only 57 per cent of the high risk individuals. After a ten year follow-up 48 per cent of the total were still alive, comprised of 68 per cent of the low risk and 19 per cent of the high risk patients. Obviously the patients in the high risk subgroup had an impressive annual mortality rate. The recent study of Matloff compared a group of 123 patients, some treated surgically and others medically.[17] Medical therapy was elected if either the attending physicians or the patients themselves rejected operation. Fourteen of 35 patients in the medical group died within one month after admission, while, in marked contrast, only 3 of 88 patients treated surgically succumbed during the same period. Although this was not a prospectively randomized study, the author stresses that the two groups were comparable. Admitting the difficulties in analyzing the results in patients with the intermediate syndrome, the available literature suggests that the annual mortality is about 15 per cent with medical treatment and 5-8 per cent following surgery. The prevailing opinion is that the intermediate syndrome in its most severe form is potentially lethal and surgical therapy probably exerts a favorable influence on the ultimate outcome.

The recently published preliminary results of a randomized study (sponsored by the National Heart and Lung Institute) of a group of patients with unstable angina pectoris[18, 19] offer a contrast. These data show that the hospital mortality was comparable in the medical and surgically treated groups (4.1 vs 5 per cent), while the in-hospital heart attack rate was higher in the surgical group (18 vs 10 per cent), due to the occurrence of infarction within 24 hours after operation. The post-hospital myocardial infarction rate over a follow-up period averaging 24 months was 13 per cent in both groups. The two year mortality was identical in the medically and surgically treated patients at 5.1 per cent. Forty-five per cent of the medically treated group had recurrent disabling angina pectoris after discharge from the hospital, while this occurred in only 15 per cent of the surgically treated group. This study suggests that the mortality rate and incidence of myocardial infarction in unstable angina are essentially the same whether the condition is treated medically or surgically. However, the surgically managed patient, as is observed in stable angina pectoris, does much better in terms of improvement in quality of life and relief of angina. These surprising results can be explained either by a greater effectiveness of current medical therapy than was heretofore appreciated or by shortcomings in the design of the randomized study which may have masked some of the benefits of surgery. Our impression is that both of these factors played a role in the outcome. Since it is difficult at the present time to predict the course of each individual patient at the onset of the intermediate syndrome and since rapid deterioration is always possible, we believe that it is preferable to keep the unstable patient in a hospital where cardiac catheterization and open heart facilities are available. If the symptoms come under control (Class I, II, and III) early coronary angiography followed by revascularization can be accomplished in the stable state. The Class IV individual who does not respond to medical therapy should have "urgent" cardiac catheterization followed by operation.

SUMMARY

In this discussion we have attempted to outline the historical development of coronary artery surgery, the various clinical presentations of coronary artery disease, and the indications for and the results of surgical treatment. Surgery as a treatment for patients with coronary artery disease is now well established. It represents a large proportion of the open cardiac surgery in adults carried out at most medical centers and will probably continue at this level as its benefits become more firmly established and its indications more clearly defined.

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Modern Concepts In The Pathogenesis Of Rheumatic Fever

Relative Roles Of Humoral Response And Abnormal Cellular Immunity Induced By Streptococci Remain To Be Delineated

By Moe Kakvan, M.D., and
R. Russell Martin, M.D.

As with many other diseases the recognition and understanding of rheumatic fever has passed through several historical stages. Initially, clinicians were fascinated by the symptomatology and the multiple clinical manifestations of the disease. Pathologists found striking abnormalities both during the acute and the chronic stages of this disorder. After the causative role of streptococcal infection was identified, epidemiologists described the important factors contributing to the spread of streptococcal infection and to the rheumatic fever which follows.

In the past several decades important advances in understanding the pathogenesis of rheumatic fever have been made, employing modern immunological techniques. These have helped to delineate possible autoimmune mechanisms which are associated with the development of rheumatic fever following exposure of the host to streptococcal antigens.

The present review discusses some of the more recent observations on the immunopathological mechanisms in rheumatic fever, with special attention to the concepts of autoimmunity as they relate to interactions between the host and bacterial products from group A streptococci.

From the Departments of Surgery, Medicine, and Microbiology and Immunology, Baylor College of Medicine, Houston, Texas.

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AUTOIMMUNITY AND THE PATHOGENESIS OF RHEUMATIC FEVER

In spite of the clear association between prior streptococcal infection and the subsequent development of rheumatic heart disease, the precise mechanisms relating them still remain undefined. According to Kaplan,[1] the presence of an antigen in the fibroblasts of human heart valve tissue which shares antigenic determinants found in the cell membranes of group A streptococci may be capable of cross-reacting with antibodies produced following streptococcal infection. These interrelationships are not simple ones, since separate antibodies directed toward myocardial and valvular tissue may be induced by various cross-reactive antigens from the group A streptococci.[2] In rheumatic fever experimental and clinical data[3] demonstrate that group A streptococci and

human myocardial fibers share a common antigen, which has been termed the crossreactive antigen.[2] Antibodies which react to this antigen can be found in sera collected from patients with rheumatic fever and rheumatic heart disease, as well as from patients with glomerulonephritis.[4] Biochemical evidence indicates that the crossreactive antigen from streptococci may resemble streptococcal M proteins, but that the myocardial antigen is immunologically distinct from this streptococcal component. Studies have further indicated that the cytoplasmic membrane of the streptococcal cell may be the antigen involved in stimulating the heart-reactive antibody.[5] Streptococci are known to produce at least 20 extracellular products[6] which are capable of stimulating antibody formation. In terms of immunity to streptococcal disease as well as possible relationship to the pathogenesis of autoimmune problems, cellular antigens located in the cell wall and on the membranes of streptococci are probably the most important elements in evoking host responses. Streptococcal M proteins are the best example of antigens which elicit antibodies with protective value, but which may also be reactive against host tissue.

The pathogenesis of rheumatic fever may be related either to a direct toxic action of the bacterial products on the myocardium or to damage mediated by immunological mechanisms.[7] Most of the evidence relating streptococcal infection to rheumatic fever has emphasized a probable role of immunological mechanisms. The hypothesis suggested by Kaplan[8 9] indicating the similarity of certain components of the streptococcal cell wall and components of human myocardium or valvular tissue suggest that the streptococcal antibodies produced following infection attack the host as well as the organism and bring about the cardiac damage.

Evidence supporting an antigenic relationship between heart and streptococcal cellular antigen basically falls into two categories: one involves a relationship between the sarcolemma of the myocardial cell and portions of the streptococcal cell wall; the second involves the similarity between a glycoprotein in human valvular tissue and the group A streptococcal polysaccharide which forms a major portion of the bacterial cell wall. Recent reports[10 12] indicate that a streptococcal polysaccharide glycoprotein has been isolated from valve tissue from a heart with rheumatic valvular disease.

Before definite conclusions can be drawn about the possible role of autoimmunity in the pathogenesis of rheumatic fever and rheumatic heart disease, a more precise differentiation of the autoantibodies which react with streptococcal cross-reacting antigens will be essential. Among the most persuasive evidence suggesting a role for antibodies in mediating the tissue damage in rheumatic fever is the immunopathologic demonstration that bound gamma globulin and complement are present in the heart tissue of patients dying with rheumatic heart disease and in biopsy specimens of the atrial appendages of affected hearts. In addition to the question of cross-reacting antibodies, it is possible that autoimmunity may be simulated by toxic damage to the cardiac tissue, in reaction to streptococcal products. This damage may result in the release of antigens which either in their natural or altered forms may stimulate lymphoid tissue to produce antibodies which ultimately result in tissue damage. Although this is an attractive hypothesis, there is little confirmatory evidence directly to support this concept.

In some cases of fatal acute rheumatic carditis extensive involvement of the myocardium with deposits of IgG and complement have been noted.[4] This has been studied extensively in the hearts of five children who died of fulminant acute rheumatic fever, in which the myocardium of the atrioventricular chambers was found to be massively infiltrated with bound IgG and with the beta 1C component of complement. These widespread deposits were concentrated primarily in the sarcolemma and subsarcolemma sites in collagenous connective tissue of the interstitium. It seems probable that the widespread deposits of immunoglobulin and complement throughout these chambers are in some ways related to the heart failure and to the electrocardiographic evidence of myocardial injury noted. Even in the chronic forms of rheumatic valvular disease high levels of antibody to group A streptococcal carbohydrate persists in the serum.[13]

The tissue damage accompanying cardiac

surgery may also lead to the development of autoimmune reactions against the myocardium. The effects of valvular surgery on the levels of cross-reactive antibodies have been investigated serially in patients undergoing surgery.[13] Antibody levels increased in the interval between the immediate post-surgical period through 7 weeks following surgery,but began to decline 8 weeks or more after a valve was excised and replaced with a prosthetic valve. However, when mitral commissurotomy was performed, antibody levels remained elevated for a longer period of time and did not decline after 2 months. These observations support a relationship between valvular disease and the antibody levels in the serum of patients with rheumatic heart disease.

Streptococcal infections are widespread, but only a portion of the population develops rheumatic fever. The hypothesis that genetic differences may determine which patients are susceptible to rheumatic fever has been advanced by Zabriski.[9] He has speculated that the abnormal responses of certain individuals to streptococcal antigen may play a vital role in the initiation and continuation of the disease process. The rheumatic individual may be unusually susceptible to cardiac damage after exposure to streptococcal antigens. In this regard the possible association between HL-A antigens and susceptibility to rheumatic fever has not been investigated. It would be of considerable interest, since a growing number of diseases have been associated with certain HL-A antigenic groups.

It is evident that final proof of the relationship between streptococcal crossreacting antibodies and myocardial or valvular damage in rheumatic heart disease remains to be established. However, as knowledge of the immunology of the streptococcus increases, the links between this organism and human tissue become even more secure. Recent advances in immunological techniques have set the stage for understanding the precise relationship between the clinical observation that some individuals with streptococcal infections develop rheumatic fever, while others do not.

COMMENTS

In spite of the observations linking antibodies to myocardial and valvular tissue to the development of rheumatic fever, some points continue to be controversial. It is still possible that the antibodies which are capable of interacting with heart antigens do not actually cause rheumatic carditis. The necessity for caution in interpreting this possible significance of tissue antibodies was clearly emphasized by Thomas,[15] who noted that patients with primary atypical pneumonia regularly develop antibodies to lung tissue. If the **Mycoplasma pneumoniae** organisms had not been isolated from such patients, it would have been tempting to have suggested that this pulmonary process was an autoimmune disease and to assign a causative role to the lung antibodies. In fact, the infection produced tissue damage which liberated antigens and resulted in the formation of antibodies to pulmonary tissue. Until more concrete experimental evidence can be obtained implicating in a causative role the crossreacting antibodies in rheumatic fever and rheumatic heart disease, a cautious interpretation is essential.

Now that techniques are available for measuring antibody mediated cytotoxicity, investigation of the possible role of lymphocytes and other cells (through mechanisms which may be distinct from humoral immunity) should be pursued. Immune responses which are directed to streptococcal cross-reactive antigens[14] and which react to cardiac myofibrils and to the smooth muscle of vessel walls may have relevance in the production of myocarditis, arteritis, and other vascular lesions observed in rheumatic fever.

Many of these mechanisms will defy precise definition unless an animal model can be developed in which the experimental production of autoimmune carditis can be adequately studied. With an animal model available the relative roles of humoral antibody, complement, and cellular immunity may be adequately assessed for specific streptococcal antigen antibody systems.

In spite of the demonstration in patients with rheumatic fever and with rheumatic heart disease of antibodies which cross-react with cardiac tissue and streptococcal components, it is difficult to be certain of the exact role, if any, that these antibodies play in the pathogenesis of rheumatic fever. Study

of these antibodies has potential usefulness in:
(1) the diagnosis of rheumatic fever during the acute phase, and documentation of recurrent episodes of rheumatic fever;
(2) provision through measurement of changes in antibody levels of a guide to evaluation of response to treatment; and
(3) clarification of the pathogenesis of rheumatic fever since these antibodies are not found in other forms of collagen vascular disease.

The evidence which favors the relationship between streptococcal infection and rheumatic fever is overwhelming from an epidemiological standpoint. At the present time the question of whether the streptococcus acts alone or in association with other host factors cannot be conclusively settled. If, as most evidence suggests, immunological factors are the critical mediators of tissue damage in rheumatic fever, the relative roles of humoral response to streptococcal antigens and abnormal cellular immunity induced by streptococci remain to be delineated.

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Texas Medical Center
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A Surgical View Of Stable Angina Pectoris

Operative Mortality Is Low And Rehabilitation Potential Is Significant

By George N. Cooper, Jr., M.D., Arun K. Singh, M.D., Lester L. Vargas, M.D., Karl E. Karlson, M.D.

Subjective symptomatic improvement is experienced by 90 per cent of patients after coronary bypass surgery. Coronary surgery began in 1968-69 and is now a valid method of therapy in certain clinical circumstances. There are many indications for myocardial revasculation, some straightforward, some controversial. Many series present results which represent a composite of patient types, and one must be very careful in interpreting these reports. When discussing surgery for chronic stable angina, one must compare risk vs benefit, and if a patient does not have unstable angina, other factors than pain must enter into an operative judgment (Table 1).

The natural history of unoperated vs operated angina patients is one of the most significant questions of the present day. There have been studies, which are continuing, to try to answer this problem.[1 5] Multiple vessel disease with diminished ejection fraction has better survival when treated surgically rather than medically[4]. Although prognosis in single vessel coronary disease is similar with medical or surgical treatment, there is a subset with severe anterior descending stenoses which may be at greater risk than right or circumflex lesions alone. Patients with two and three vessel disease have significantly improved survival with saphenous vein grafting[4]. The late myocardial infarction rate is low in surgically managed patients,[6] and unstable angina has been reported to be less frequent in surgically treated patients than in those managed medically [7]. A recent nicely matched prospective study by Vismara et al[5] showed that surgery yielded greater symptomatic benefit with improved functional capacity (medical treatment 12 per cent, surgical 60 per cent). In addition, bypass surgery was associated with marked reduction in sudden death (medical 24 per cent, surgical 6 per cent).

From the Department of Surgery, Rhode Island Hospital, and the Division of Surgery, Brown University, Division of Biology and Medicine.

SURGICAL MORTALITY

Surgical mortality is an important factor when considering bypass surgery. An excellent compilation of data by Conley at Duke University gives a comparison of mortality data in different clinical situations and also from different institutions[8]. The operative mortality varied from 3.5 to 12.0 per cent from center to center. Surgery for left main disease has a higher mortality in each institution. In 460 patients operated on at Duke from January 1972 to March 1976, the overall mortality was 5.4 per cent. In

different subsets, however, the mortality was higher or lower, depending on coronary anatomy, age, and especially the presence of left main disease. Although age greater than 50 seemed to increase the triple vessel surgical mortality in the Duke series, Gann et al[9] reported only 4 deaths in a series of 50 patients over age 70 who underwent coronary surgery. In a recent paper Kouchoukos[10] reports on 1590 patients having coronary surgery with a 30 day mortality of 2 per cent. The mortality for triple grafts in the entire series was 1.9 per cent (11 of 584) and for quadruple grafts 0 per cent (0 of 59).

With the operative mortality at an acceptably low level, coronary bypass can be safely utilized in consideration of some of the factors in Table 1. To rehabilitate a person to breadwinner status, save his marital relationship, or obviate a semi-invalid self-image, triple bypass is warranted and will produce a situation with fewer or no symptoms and may prolong life in comparison to what we know about medically treated triple vessel disease, which according to Webster carries a 60 per cent five year mortality rate.[14]

TABLE 1

Angina Pectoris — A Multifaceted Problem

AGE	>50 <50
Environmental factors	
	Breadwinner status
	Activity limitation
	Marital relationship
	Psychological status as a person
Clinical Factors	
	Symptom pattern
	Patient's ability to accept his situation
	Hx of myocardial infarction
	Hx of failure
	Stress test results
	Hyperlipo-proteinemia
	Wt.-smoker-diabetes-↑BP family
Lab Factors	
	Coronary anatomy
	Status of ventricle
	Cardiac index-ejection fraction
	Aneurysm
	Collaterals

THE ASYMPTOMATIC PATIENT

The asymptomatic patient often presents a dilemma. Coronary anatomy and ventricular function, as well as stress testing, play a large role in surgical decision making in this type of patient. It is true that coronary stenoses may be present without causing myocardial ischemia, but the asymptomatic patient is not really asymptomatic if one considers the fact that there must have been some symptom or event which brought him to the attention of his doctor or catheterizing cardiologist. If a presently stable or minimally symptomatic patient can be shown by physiologic testing not to have ischemia during stress and coronary lesions are not severe, or severe stenoses involve only right or circumflex arteries, one would be reluctant to operate. Neither the symptons nor the long-term outlook would be substantially altered. It is possible, however, that in the same type of patient with a single severe left anterior descending (LAD) stenosis on arteriography, operation would improve his prognosis with respect to preservation of the anterior wall, septum and apex. However, Kouchoukos[11] reported a 24 month followup of 53 patients with high grade anterior descending stenosis with adequate collateral circulation to the distal vessel. Twenty-nine were treated surgically, and 24 were treated medically. Complete relief of angina occurred in 41 per cent of surgical patients vs 25 per cent of medical patients, and improvement in exercise response was greater with surgery. There was no difference in survival and incidence of myocardial infarction in the two groups. Surgery was not recommended, therefore, to prevent myocardial infarction or death, but only for patients with severe symptoms and impaired exercise performance who have not responded to medical therapy. Despite these findings there are anatomic subgroups with and without collateral formation and different exercise subgroups with different prognoses[12] [13]. It will be interesting to evaluate these groups in 2 years. The amount of myocardium served by the anterior descending artery is quite vast in comparison with either the right or circumflex coronaries, and therefore LAD stenoses carry more jeopardy[14].

By and large patients operated upon for stable angina pectoris do quite well, and rehabilitation potential is significant.

The view that obstructing lesions automatically call for bypass regardless of circumstances is not substantiated by the current literature. On the other hand coronary surgery has created important rehabilitative inroads which should be recognized. Continuing close scrutiny of series of comparable angina patients treated logically and in keeping with evolving physiologic data will yield more valid conclusions as we continue to work on this difficult problem.

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Special Paper:

Some Group Practice Health Care Facilities In Rhode Island

It Is To Be Expected That More Group Practice Facilities Will Be Developed In Rhode Island

By Faiza Fawaz-Estrup, Ph.D., M.D.

The practice of medicine has undergone a radical change in the past few years. There has been an explosion of medical knowledge and an increased sophistication of medical practice. The sociological factors involved in the practice of medicine have changed as well. There is greater participation of the federal government in the management of health care, and a heightened expectation for better consumer health services. To adapt to these changes the primary care physician has veered away from solo practice to a group practice, where the physician can more efficiently use his time and knowledge. This general trend is noticeable also in Rhode Island; many of the primary care house staff in the state prefer to go into a group practice after finishing their training. Questions then arise as to what kind of group practice exists in Rhode Island and how a physician can decide on which is best suited for him.

In this paper, I shall outline the main features of three prototypes of group practice that are available in Rhode Island:

FAIZA FAWAZ-ESTRUP, Ph.D., M.D., *resident at the Rhode Island Hospital.*

I. Group practice in a hospital ambulatory patient center where the physician is salaried. The specific example chosen for discussion is the Ambulatory Patient Center at Rhode Island Hospital (APC).

II. Group practice in a prepaid, consumer-owned health maintenance organization where the physician is salaried, as exemplified by the Rhode Island Group Health Association (RIGHA).

III. Fee for service group practice. The example is the Bristol County Medical Center (BCMC).

I. AMBULATORY PATIENT CENTER (APC) AT THE RHODE ISLAND HOSPITAL (RIH)

Traditionally, ambulatory patient services have been divided into three groups: 1) Emergency room, 2) Laboratory, x-ray, diagnostic, and treatment services, and 3) Outpatient department clinics (OPD). In the past the OPD clinics were mainly used for medical education and were indigent oriented; consequently they were subsidized by the hospitals.

The emergency room at RIH treats approximately 150 patients per day and has

its own director, laboratories, and x-ray department. It is run separately from the clinics that are the main topic of the present discussion.

The APC is a 28 million dollar building at RIH which houses the medical, surgical, and pediatric clinics as well as subspecialty clinics such as otolaryngology, ophthalmology, plastic surgery, dermatology, child development center, and others. It also houses its own laboratories and x-ray, diagnostic, and treatment services. The APC has a renal dialysis unit and operating rooms which are used for "ambulatory" surgery. In 1975, five of the separate clinics — Medical, Disposition, Pediatric Diagnostic, Pediatric Dispensary, and Adolescent — were combined into one functional unit, the Primary Care Unit.

At the APC approximately 40 per cent of the patients are referred by the emergency room, and most of the remaining 60 per cent are "self-referrals" or are referred by nearby community health clinics. Inpatients who have no private physician are followed in one of the APC clinics after their discharge by the residents who took care of them while they were hospitalized. Many of the patients who come to the APC clinics have no primary-care physician; some are newcomers to the Providence area, while others are children or relatives of patients who have been using the OPD for years. The ages of patients seen at the APC range from infancy to over 90 years. Forty per cent of the patients seen at the Medical Clinic are on welfare, 20 per cent are on Medicare, and the remaining 40 per cent pay for themselves.

The outpatient clinics at RIH are used essentially for educating residents and medical students; as a result they are non-profit and are heavily subsidized by the hospital. Patients are charged for a visit on a sliding scale depending on their income. However, sliding scale charges do not apply to ancillary services.

The APC is run by the hospital. The clinics are open from 8:00 AM-4:30 PM daily and are closed evenings and weekends. Full-time hospital staff physicians as well as private physicians and residents contribute a few hours a week to the running of the clinics. In addition, physicians are employed part-time by the Primary Care Unit and paid by the hour. The physician sees on the average four patients per hour.

In some outpatient departments where residents and staff physicians contribute only a few hours a week of their time to the clinics, they do not have the opportunity to follow the patients for long periods of time and as a consequence they are mainly concerned with episodic care. In such a situation the patients do not see the same physician each time they visit the clinic. This discontinuity of service has the potential of causing poor patient-doctor relations, including cancellation of appointments by the patients. To avoid such problems the Medical Clinic has two full-time staff physicians. Medical residents are now assigned one afternoon a week in the clinic and usually see the patients they had treated as inpatients. In addition, one to three attending physicians per day work part-time at the clinic and help in the training of medical students.

Nurse practitioners and paramedicals play a very important role in the APC. The nurse practitioners employed at the Medical Clinic see patients who require mainly routine care. Nurse assistants do the routine work of measuring the temperature and weighing the patients. All administrative work is done by non-physicians. A psychiatrist, a social worker, and a pharmacist are available for consultation.

Patients are seen at the Medical Clinic by appointment only (with the staff at its present size, it sometimes takes one to three weeks to obtain an appointment). The Medical Clinic also runs a "Disposition Clinic" from 8:00 AM-1:00 PM daily, where patients not requiring emergency treatment, but who may still require medical attention by a physician or by a nurse practitioner, may "drop in" without an appointment. Most of the patients seen in the "Disposition Clinic" daily are referrals from the emergency room.

The Primary Care Unit has been functioning as a unit for the past two years, and it seems clear that it has the potential of being a major primary care facility in Rhode Island. It has outstanding leadership, and the clinic now has on its staff well-qualified fulltime physicians who are interested in primary care as well as in academic medicine. There is an excellent rapport among the

health professionals — physicians, nurse practitioners, paramedicals, pharmacists,and social workers. The clinic has at its disposal the resources of the RIH with its subspecialty clinics, emergency room, laboratories, and other services and the services of experts in many fields.

The physicians work forty hours a week with no night or weekend duty, and have one month vacation. At present, salaries of the full-time staff are not competitive with salaries of physicians working in other types of group practice. This may change in the future as more people in the community become aware of the excellent services available at the APC and as a consequence more patients use the facilities and more income is generated.

Other hospitals in Rhode Island have outpatient departments — mainly subspecialty clinics such as rheumatology, dermatology, and hematology. However, it is likely that primary care units will be established in some of the hospitals. In 1975 the Memorial Hospital in Pawtucket started a residency training program in Family Practice.

The future of the APC and of other hospital based primary care facilities may depend on accommodating more patients, making physician salaries competitive, and promoting better public relations and education programs in the community. It may very well be that in the future such large hospital based centers will become the primary care facilities of the inner cities and of large metropolitan areas.

II. RHODE ISLAND GROUP HEALTH ASSOCIATION (RIGHA)

RIGHA is a health maintenance organization (HMO) chartered in Rhode Island in 1968. At that time most of its members belonged to labor unions in the greater Providence area. At present about 400 Rhode Island employers make the RIGHA health insurance plan available to their employees, and there are now approximately 21,000 members. Members may join individually or with their families, and they have the choice of an imdemnity plan or a prepaid capitation plan. Until recently membership was offered through the employer only (with 25 employees or more). At present open enrollment is available for non-group members as well. After joining RIGHA a member chooses a personal physician from the group with the help of basic information provided by the enrollment department. This physician is then the primary care physician who provides continuity of care, refers the patient to a specialist if need be, and follows the patient at the hospital.

Members pay a fixed monthly fee, which entitles them to free office visits at RIGHA facilities for diagnosis, treatment, checkups, preventive care, and continuing care. Visits to consulting specialists, such as orthopedic surgeons, are also free to the member if referred by a RIGHA physician. Hospitalization or surgery, when arranged by RIGHA for its members, is fully paid for by RIGHA. The financial success of RIGHA presumably depends upon maintaining the good health of its members, reducing hospital costs by keeping at a safe minimum the number of days the patient is hospitalized, and careful evaluation of the need for surgery.

The physicians at RIGHA are involved only with the primary care of the patients, while non-physician personnel, such as paramedicals, pediatric nurse practitioners, laboratory technicians, and medical secretaries, are given important functions. For example, pediatric nurse practitioners receive most of the telephone calls from parents; they give immunizations and see "well" babies. Thus, the pediatrician has only to take care of the sick child. Medical secretaries do all administrative work.

At the present time the staff includes 17 full-time primary care physicians (internists, pediatricians, obstetricians, gynecologists) as well as specialists working on a part-time basis. Full-time work for an internist means about 29 hours spent in the clinic with four patients per hour on the average, plus 10 hours in the hospitals. In addition, the physician is on call one evening a week and one weekend a month. RIGHA has physicians on call to members 24 hours a day. The facilities are open from 8:30 AM—10:00 PM daily and till 5:00 PM on Saturdays and 1:00 PM on Sundays. RIGHA physicians are salaried, and the salary range depends on the age, experience, and specialty of the physician.

When RIGHA first opened in 1968 it rented its headquarters from Our Lady of Fatima Hospital in North Providence. The North Providence Center has its own multiphasic laboratory, pharmacy, clinics, and administrative offices. It makes use of the radiology facilities of Our Lady of Fatima Hospital. Since then a Warwick Center was opened. The main RIGHA health center in North Providence moved to a new and larger facility (Providence Center) in July 1977.

RIGHA is a HMO which is consumer owned, and a board of directors representing the membership makes all policy decisions. RIGHA is managed and is in part financially supported by the Prudential Insurance Co., and the management team is accountable to the board of directors. RIGHA pays consultants by capitation or by fee for service. The RIGHA physician may admit his patients to St. Joseph's Hospital, Our Lady of Fatima Hospital, Rhode Island Hospital, The Miriam Hospital, Women & Infants Hospital, and Butler Hospital as needed.

With the advent of increased federal regulations on medical care expenditures, health maintenance organizations such as RIGHA may have an important role in the delivery of health care, especially since its emphasis is on preventive medicine. However, such HMOs require a minimum number of subscribers to be financially solvent. Therefore, one can predict that more HMOs will be established near areas with industrial populations and in intermediate size cities where smaller community hospitals are located.

III. BRISTOL COUNTY MEDICAL CENTER (BCMC)

BCMC is an incorporated group of about 13 physicians who practice medicine in one location. The center houses the physicians' and administrators' offices, medical records, laboratory, x-ray department, emergency room, dentist, and ophthalmologist offices, as well as a pharmacy (which is not owned by the group). The medical center started operation over 13 years ago and has a total of over 200,000 patients on its rolls. The patients are from the Bristol, Warren, Barrington, Tiverton, and East Providence area. The patients' ages range from infancy to over 90 years, and they come from a variety of socio-economic backgrounds. There are about 1,000 members who are on prepaid Blue Cross-Blue Shield plan, while the rest pay a fee for service.

Some of the physicians in the group act as the family physicians. Most of the patients are taken care of by their family physician and may be referred to one of the specialists or surgeons in the group as necessary. The family physician sees patients in the office, follows the patient's course in the hospital or in a nursing home, and makes house calls when necessary. Members of the group attend one another's patients in the hospital as well as in the office when the designated primary care physician is off duty or is unable to see his patients. The physicians spend most of the mornings visiting patients in the hospital and extended care facilities, and at times make house calls. Office hours are usually in the afternoons from 1:00 PM-5:00 PM daily, when the physician sees on the average four patients per hour. Each physician is on call one night a week and one weekend a month. The physician has a one-month paid vacation. The BCMC provides medical coverage 24 hours a day and 365 days a year.

The BCMC has one paramedical who works in the emergency room. There are no nurse practitioners in the group. The family physician does the routine work of recording the temperature and blood pressure of the patient.

Money received from patients for office visits, laboratory work, and x-ray studies goes into a general fund. After overhead and non-medical employees' salaries are paid, as well as the minimum agreed-to yearly salaries to each of the 13 physicians, the remaining funds are divided among the physicians on an accrual basis — depending upon the percentage of the general fund each physician has contributed.

The BCMC is well managed, and there is very good rapport among the physicians in the group. It is also financially successful, an outcome which cannot be taken for granted in group practice.

The BCMC serves as a model for group practice health care facilities which will be needed in suburban communities and in the smaller cities of Rhode Island.

(Continued on Page 46)

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Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

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Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

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Editorials

CYCLISTS AND HELMETS

The legislature in Rhode Island a few years back adopted a sensible ordnance requiring all motorcycle riders to wear helmets. At the last session (1977) under pressure from the mindless motorcycle lobby the law was repealed. How foolish this action was is highlighted by a recent report issued by the AMA titled, "Head Protection for the Cyclist, A Medical Inquiry."

This report is the result of a special conference on head protection sponsored by the AMA in April, as well as a survey of scientific literature on the subject. The conference was comprised of physicians, researchers, representatives of the motorcyclists, and manufacturers.

Although the report avoided the issue of compulsory helmet legislation, which is being challenged by motorcyclists throughout the country, it effectively refutes many of the arguments used in influencing legislators to repeal state helmet use laws.

In response to the argument that helmets **cause** cervical spine and clavicle injuries, the report states categorically that "helmets do not of themselves contribute to or worsen the injury." If forces are strong enough to cause such an injury to the spine with the helmet, those forces would almost invariably cause a fatal head injury to the unhelmeted cyclist if his head struck the pavement or other unforgiving objects in a crash.

The report also refutes the popular argument that the helmet causes a serious reduction in peripheral vision. All helmets approved by the US Department of Transportation exceed the requirements of any state driver's licensing agency. The great majority of cycle crashes occur within the 40 degrees of field vision directly in front of the cyclist.

As regards helmets impairing hearing, it is established that any reduction of critical traffic sounds by the helmet is proportionate to the reduction it makes of the sound of the cycle. Thus, if the helmet does not completely block out the sound of the cycle (which no one claims), neither does it block out the necessary traffic warning sounds.

As to the claims that actual hearing damage can be attributed to helmets, the report indicates that the helmet cannot be blamed for hearing damage since it in fact reduces both the sound of the cycle and the sound of the normal traffic stream. Continuous exposure to even ordinary motorcycle and traffic sounds can cause hearing loss, and accordingly, the helmet can actually be helpful in reducing the chance of hearing damage.

The report addresses such matters as the effect of helmet weight, chin straps, chin cups, head rotation within the helmet, speed, alcohol involvement, helmet accessories, tinted shields and visors, and thermal effects. It also discusses the proper removal of a helmet to avoid any further injury to a cyclist who has been in a crash.

In summary, the report strongly condemns cycle use without a helmet, and recommends the use of full-facial coverage helmets because of the extra protection they afford. It recommends also that, because of the serious public health implications, the medical and health community should actively involve itself in promoting the use of safety helmets by all who drive or ride two-wheel cycles, particularly motorcycles.

It would be the better part of wisdom for the Rhode Island General Assembly to read this carefully researched report and then once again to re-enact a motorcycle helmet law, which was so foolishly repealed.

ARE THE LIBERAL ARTS PASSÉ?

The recent conference held at the University of Rhode Island to focus attention on the problem of defining what students should learn as a minimum to become truly educated persons gives encouragement to supporters of the liberal arts programs that dominated higher education for generations, until the 1960s when schools abandoned traditional requirements and substituted free course choice.

This "smorgasbord" approach, as one professor at the University characterized the grouping of various academic subjects together and allowing students to pick the ones they wish to study in each group, leads to what the professor calls an unbelievable situation in which students can graduate without having studied any mathematics, any English, or any history.

The conference at our state university as it considers overhauling the undergraduate curriculum is typical of many similar ones that are being held these days throughout the nation, not only by university and college groups, but also by secondary schools, particularly the private academies that have for generations offered traditional courses that prepared students for higher education in the liberal arts programs.

Last spring more than 400 liberal arts faculty members assembled at Penn State University for an unprecedented two day conference to chart new directions for liberal arts studies. This meeting highlighted the problems of falling enrollments at colleges due in some measure to the decreased birthrate by six million from 1962 to 1976, thus accounting for a college population of an older age, and fewer seeking liberal arts studies; the narrowing opportunities for liberal arts graduates; the wide variance in student aptitudes; and the decrease in federal research funding.

On the positive side the liberal arts supporters were told by Stephen K. Bailey, vice president of the American Council on Education, that liberal arts colleges should stop concentrating on preparing people for work and begin preparing them for life. Pointing out that today's population can expect to live substantially beyond the present life span of 70 years, he noted that "Eighty per cent of the available new jobs in the United States can be manned by people with a high school education and three weeks of training. In the future, work will have to be viewed as only one part of life." And, he predicted, with so many people stuck in dead-end, unchallenging jobs, the liberal arts will be desperately needed to "nourish the inner needs of the person" outside working hours.

Educators in general seem to be in agreement now that career education has been oversold because of the short term demands of our highly industrialized society. Current literature has given us a constant barrage of speculation as to why today's students cannot even read, write, or spell, whether in elementary schools or in colleges. National journals have deplored the general acceptance of lower SAT scores. Traditional education programs have been attacked during the past decade, under the guise of freedom, better spelled license, as one educator correctly expresses it.

It is most encouraging, therefore, that responsible educators are taking a longer look at what has happened to American education, and in the process recognizing the risk of surrendering life-long values built on an educational program designed "to teach students to think, to communicate, to be socially responsive, and to understand political realities while also maintaining a sense of the past," as Liberal Arts Dean Stanley F. Paulson of Penn State has pointed out.

In spite of the fact that some think a liberal arts education has a negative effect on a person's ability to earn a living, educators are finding out that the job picture has been painted unduly black, and that more and more young students are realizing that a college program geared to specific job-related subjects is not sufficient. As economist Philip Klein told the Penn State group in urging them to hold fast to the idea that today's university must continue to be more than just a vocational school. "Our lack of trained accountants is less acute than our failure to stabilize world economics, reduce poverty, come to grips with mental illness and suicide, or make life appear worth living to vast numbers of disenchanted people."

If the liberal arts programs are to survive and flourish at the college and university level, it is readily apparent that there must be a far greater effort than has been demonstrated so far at the high and prep school levels to provide the student for such fulfilling programs at an early age. That secondary school educators are aware of the issues involved is illustrated by two random items that have come to our attention.

This past summer the **Miami Herald** in an editorial stated that "In the suburbs of New York City schools are evolving what they call the Look of the 1970s — a return to essentials that goes beyond the back-to-basics moves of recent times. One high school reports that its classes in Latin are chockfull, with bigger class loads than have been seen in 20 years. Other students are asking for fewer "relevant" authors in their reading classes and more of the classics, such as Shakespeare's plays and **Moby Dick.**"

The headmaster of a leading New England preparatory school, in a letter to students and their parents emphasizing the traditional academic programs and strict dress code for his students in order to maintain high standards, had this to say regarding some of the current educational problems: "In an effort to be pertinent to the needs of today schools have abandoned traditional requirements, substituting free course choice; the classics, in whatever language, have been replaced by credit courses in bachelor of foods and literature of sport. Indeed, there are students holding high school diplomas who can barely read the names inscribed thereon."

And he expressed the opinion that school buildings "look and act like factories and students dress as if they were workers ready to put in an eight hour day at the machine. While I do not mean to denigrate the American men and women who labor at machines, I know that they all want something better for their own children. Schools should not be factories. They should not be hives of boredom and drudgery. What happens in the schoolhouse should permanently work on the mind and the spirit."

Physicians, of all groups in our community, should be keenly aware of the need to add quality to teaching and research programs,and they should be in the forefront in supporting educational explorations to chart new directions for liberal arts studies that reach out to every student regardless of his chosen major course of study. We are mindful of Ovid's words — "And let it be no slight care to cultivate the mind with the liberal arts, and to learn thoroughly the two languages of Greece and Rome."

John E. Farrell, Sc.D.

FDA COMPLICATES ESTROGEN CONTROVERSY

The FDA requires an estrogen package insert for consumers, the insert to contain the unqualified statement that "Women taking estrogens have roughly five to ten times as great a chance of getting (endometrial) cancer as women who take no estrogens."

Are there no risks to patients with significant estrogen deficiency if they are not given estrogens? Indeed there are according to Doctor John Morris of Yale University School of Medicine, and here are some of his conclusions and the literature:

1. Estrogen reverses the negative calcium balance of the menopause and prevents bone resorption and retards osteoporosis with consequent vertebral deformity, height loss, and hip and wrist fractures.
2. The risk of fracture of the wrist and hip in older women is 25 per cent.
3. Eighty per cent of hip fractures occur in patients over 60 years of age and 85 per cent of this group are women.
4. The mortality of hip fracture is 13.2 per cent with 9 per cent dying within four weeks and 15 per cent dying within three months of the injury.
5. There is a significant difference in bone mineral mass between estrogen treated and untreated menopausal patients.
6. Cortical bone thickness is considerably

less in estrogen treated than in non-treated female castrates.

7. If estrogen is given to oophorectomized women, metacarpal mineral content is considerably better than in controls receiving placebo when treatment was started within three years.

8. There is clear evidence that estrogen substitution treatment is more effective in preventing osteoporosis if given early to the estrogen deficient menopausal patient, since bone resorption is greater during this time of acute hormone deficiency than later when the deficient state is more chronic.

Doctor Morrsi in comparing the incidence and related mortality of fractures secondary to osteoporosis with endometrial cancer states that fractures of the hip alone are more than four times more common in females than endometrial cancer in any reporting period and that the estimated age adjusted mortality rate from endometrial cancer was 4.1/100,000 women in 1970-1974 dropping from 8.2/100,000 in 1940-1949. The mortality rate associated with hip fractures is 13.2 per cent, while that of early endometrial cancer is only 2.6 per cent. Why therefore is there no mention of this risk in the package insert?

Doctor Morris raises the interesting speculation that the menopausal female on estrogen, carefully monitored as she is, may indeed reap the benefit of having her endometrial cancer discovered when her age and state of health, as well as the extent and duration of her disease, are so favorable as to promise a 97 per cent "cure."

It is appalling that the FDA insinuates itself in such arrogant fashion into the patient-physician relationship. It proclaims the potential but not yet proven risk of estrogen treatment in causing endometrial cancer, basing its warning only on those studies it chooses to include while it fails to advise the patient of her risks from alternative therapy or no therapy at all.

Moreover, the FDA requires this while blithely leaving the physician with total responsibility for the patient's outcome.

Bertram H. Buxton, M.D.

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Book Reviews

TRANSVESTITES & TRANSSEXUALS by Deborah Heller Feinbloom. New York: Dell, 1976

This book is a well-documented treatise on a not common subject. The book is heavy with statistics. There is a chapter on definitions which discusses in length and depth homosexuals, transsexuals,and transvestites. The author sees the "healthy homosexual" as one with no ostensible problem. The female transvestite is a very rare phenomenon. The author sees the transvestite as a person who "cross-dresses." She divides male cross-dressers into homosexual transvestites who dress for vanity or to be sexually attractive to other men; and heterosexual transvestites who are compulsive in dressing and do it for self-erotic needs.

Among transvestites few may feel the need to be feminine strongly enough to take hormones, but the majority fantasize rather than participate in major body changes. Most are appalled at the thought of surgery. Anthropologically male transvestites were frequently seen as young males, who were unable to maintain an assertive masculine role, seeking a way of escape. The male and female transsexuals see their gender identity as incongruous with the anatomical reality and actively seek to resolve the conflict through sexual reassignment surgery.

The author has a compulsion for definition and details, and even describes the operative procedures. There is a chapter on how the author researched and gathered the material for the book, which might have interest to a social worker or a sociologist. The author talks about the wives of transvestites, who usually fall into three categories: those who are able to accept it, those who tolerate it, and those who participate happily. Frequently the wives of transvestites have self-esteem problems and basically feel that they are lucky to have anybody interested enough in them to want to marry them. The major point is that one's adult gender identity is the result of a complicated and interactive process of biology and society, of nature and nurture. The author's study indicates that sex roles are learned and vary from society to society, that they are not always opposite, and that the measures of appropriate behavior vary.

Gender role is defined as everything a person says and does to indicate to others or to the self the degree that one is either male, female, or ambivalent. Gender identity is the private expression of gender role, and gender role is the public expression of gender identity. In essence then, the gender identity is how a person sees himself or herself, and gender role is how he or she expresses publicly this identity — the two sides of the same coin.

In general, in current psychiatric doctrine transvestism is looked upon as a pathological state to be cured or as a defense mechanism that may or may not work for a given person in handling anxiety. The author agrees that when one is dealing with transsexualism one is dealing with an extreme identity variation. Transsexualism is a disorder wherein an individual irreversibly accepts a gender identity which is different from the anatomical reality. The problem facing the transsexual can be seen in a number of ways. One can see transsexualism as a "career gone sour" — "my maleness or femaleness has gone sour."

I recommend this book for graduate students in psychology, sociology, and social work. It is too technical for the general public, but not technical enough for a knowledgeable psychiatrist.

Peter P. Reilly, M.D.

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A TIME TO BE BORN by David Bell, M.D. New York: Dell, 1975

This book describes four episodes in the professional life of a pediatric resident who is rotating through the neonatal intensive care nursery.

The first three experiences involve major and distinct problems encountered in a modern obstetrical tertiary care center: the dilemma and ethics in the management and treatment of mature infants with evident brain damage, the problems in diagnosis and treatment of the withdrawal syndrome in a newborn infant of a heroin addict and the prognosis for a well-adjusted childhood, and the problems in management of the extremely immature neonate. The fourth experience involves the physician's voluntary participation in a home delivery.

All of these subjects contain some pretty emotional and controversial elements which the impressionable young pedriatic physician dramatizes with characteristic enthusiastic agonizing. There is the inevitable touch of anti-establishment attitude of the young physician against societal inequities, the AMA, hospital physical and personnel deficiencies, and current obstetric practices.

Despite the author's patent naivety, which may disenchant the seasoned physician, he develops considerable suspense and credible concern for the outcome of his Lilliputian charges. This book will be enjoyable and interesting to the lay reader who will be impressed by this young doctor's humanity, sensitivity, and even his occasional humility. His ego trips, occasional misconceptions, and sophistry cannot tarnish the clearly evident good intentions of Doctor Bell.

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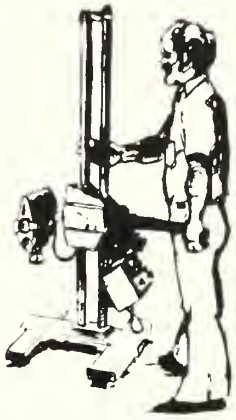

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and
ARTHUR B. KERN, M.D.

Founded by FRANCESCO RONCHESE, M.D.

Left: A skin colored tumor of glans penis, slowly enlarging over a six month period.

Right: A mass of skin colored tumors in the perianal area,slowly enlarging over a six month period.

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Right: The mass of verrucous lesions is typical of veneral warts (condylomata acuminata). Differential diagnosis must always include malignancy, as well as condyloma lata (of secondary syphilis). In this case there was an excellent response to applications of 25% podophyllum in tincture of benzoin.

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Some Group Practice Health Care Facilities in Rhode Island

(Continued from Page 34)

CONCLUSIONS

The three examples discussed here illustrate some of the important general features of a group practice. Group practice provides optimum working conditions for the physician. He is relieved of administrative work, has available at his disposal diagnostic and laboratory studies, and can refer his patients to a surgeon or a specialist in the same building. He is not on call every night, since each member of the group shares in the burden of night, emergency room, and weekend duty. Furthermore, there is a continuous indirect peer review in group practice. There is one drawback to prepaid or hospital-based group practice in that appointments to see the physician are made by persons other than the physician. Although this insures that each physician attends a certain number of patients, he may come to feel that he has no choice as to which patients should be seen and when. Another possible drawback is that patients, especially hypochondriacs, may abuse the system by requesting visits for minor transient ailments not requiring a physician's treatment. No-show patients who do not keep their appointment may also present a problem. All factors considered, it would appear that a group practice (whether paid for by capitation or by a fee for service) should work to the benefit of both patients and physicians, if it is financially well managed, and if it is associated with a hospital that delivers high quality medical service.

As for the situation in Rhode Island, it is to be expected that health care facilities such as the APC will develop in some of the other hospitals in Providence and at The Memorial Hospital in Pawtucket. Health Maintenance Organizations similar to RIGHA will probably concentrate in the Providence-Warwick-Cranston areas, and the BCMC type of group practice will predominate in the suburban and rural areas, as for example in the Foster-Gloucester-Cumberland areas.

Acknowledgements: The author wishes to thank Doctor Herbert P. Constantine, Director of Ambulatory Patient Services at Rhode Island Hospital; Doctor Charles E. Millard, Director of the Bristol County Medical Center; Mr. Kenneth L. Simmons, Executive Director of RIGHA; and Doctor Robert G. Rosenberg, Medical Director of RIGHA — for valuable discussions and comments.

o

WOMEN'S AUXILIARY AWARD SCHOLARSHIP

A $500 scholarship was recently granted to Reginald Fowler, a fourth year medical student at Tufts Medical School in Boston by the Women's Auxiliary of the Rhode Island Medical Society.

Reginald is the son of Mr. and Mrs. Robert L. Fowler of 178 Whitmarsh Street, Providence. He has recently completed a rotation clerkship in diagnostic radiology at Grady Memorial Hospital in Atlanta, Georgia.

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Rhode Island Medical Journal

February, 1978 Vol. 61, No. 2

Some Recent Advances in Psychiatry

A character all its own.

Valium (diazepam) is a benzodiazepine with a character all its own. Pharmacologically, it has been described as more potent mg-per-mg than other available anxiolytic benzodiazepines. Pharmacokinetically, only Valium provides active *diazepam* as well as the active metabolites 3-hydroxydiazepam, desmethyldiazepam and oxazepam.

But the individual character of Valium is even more apparent clinically than pharmacokinetically. And far more significant. That's because of the patient response obtained with Valium. A response which brings a calmer frame of mind. A response which has a pronounced effect on the somatic symptoms of anxiety, particularly muscular tension. A response which helps the patient feel more like himself again because of the way Valium reduces the overwhelming symptoms of anxiety and psychic tension.

Another important aspect of the clinical character of Valium is safety. Though drowsiness, ataxia and fatigue are possible, these and more serious side effects are rarely a problem. Of course, as with all CNS-acting drugs, patients taking Valium should be cautioned against driving, operating dangerous machinery or the simultaneous ingestion of alcohol.

Unquestionably, many psychotherapeutic agents, including other benzodiazepines, have antianxiety effects. But one fact remains: you get a certain kind of patient response with Valium. It's a response you want. A response you know. A response you trust as part of your overall management of anxiety and psychic tension.

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2-mg, 5-mg, 10-mg scored tablets

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states, somatic complaints which are concomitants of emotional factors, psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported, should these occur, discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.

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FEBRUARY, 1978 VOLUME 61, No. 2

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EWSLETTER . . .

THE RHODE ISLAND MEDICAL SOCIETY

February, 1978

EY LEGISLATIVE ITEMS: 1978

H5504 (Mahoney) — An Act elating to Physician's Fees

blic hearing held on January 24, — Peter L. Mathieu, Jr., M.D., ed for Society in opposition to the — Strong consumer representation present in support of passage — bers in response to Society's letter begun contacting representatives senators to register opposition to assage — Society representatives e meeting with Rep. Mahoney to ss a solution to the alleged prob- negating need for passage of bill.

S2014 (D'Amico) — An Act lating to Chiropractic Services

blic hearing held on February 28, — Herbert F. Hager, M.D. testi- or Society in opposition to passage hode Island Blue Shield testified st — indicated they have devel- a chiropractic "rider" that is cur- offered to groups — sentiment o monitor the public's response to ider which could be used to de- ne if a statewide need for chiro- c services exists — Proponents of ill were strongly represented.

H7102 (Durand) — An Act lating to Laetrile

blic hearing was held March 2, — George V. Coleman, M.D. tes- for Society in opposition to the — Henry T. Randall, M.D. and ndo Simeone, M.D. representing merican Cancer Society, Rhode l Division and the Department of h respectively, offered testimony pposition — Others who testified st passage included Louis A. Le- M.D. and Paul Calabresi, M.D. with representatives from other izations — A joint position state- ment representative of the three organizations reads as follows:

"It is the position of the Rhode Island Medical Society; the American Cancer Society, Rhode Island Division, and the Rhode Island Department of Health, that laetrile has no value in the prevention or treatment of cancer."

Rep. Durand has introduced an amendment to the bill the substance of which is: (1) University of Rhode Island School of Pharmacy will manufacture laetrile in an injectable modality — (2) A physician upon receipt of a signed consent form, which frees the physician of liability, will administer the substance — (3) Prior to treatment the physician must indicate to the patient the type of malignancy present, the availability of other conventional cancer treatments and the lack of medical evidence supporting efficacy — Rep. Durand feels that this "controlled" clinical trial program will once and for all determine laetrile's worthiness or lack of.

Bills Of Interest To R.I.M.S. In 1978 Legislative Session

The Public Laws Committee has discussed the following bills and has adopted the positions noted:

SENATE

S-2213 (Smith) — *An Act Requiring the Department of Social and Rehabilitative Services to Require a Second Medical Opinion in All Elective Surgical Care, and Requiring This Department to Limit Reimbursement for Pre-Operative Care in Hospitals to One Day.* The Public Laws Committee disapproves this bill.

HOUSE

78-H 7116 (Friedemann, Kane, Gallogly, MacDonald, Maigret and others) — *An Act Relating to Construction of Hospitals and Ambulatory Care Facilities.* This act would require the Department of Health to base its' decision regarding the need for construction of new health facilities or additions to existing facilities upon the need within the county within which construction is to take place. The act would also authorize the Health Department to reallocate existing equipment and beds amongst health care facilities upon a showing of need. Reallocation of beds would be mandatory if an applicant can demonstrate more than 90% bed use over a two (2) year period next preceding the filing of the application when no beds are available for reallocation. This act would take effect upon passage. The Public Laws Committee disapproves this bill.

77-H 6039 (Sao Bento, Sinesi) — *An Act Relating to Oriental Medicine.* This act would establish the practice of Traditional Oriental Medicine, including acupuncture and herbal medicine, as a learned profession and would set up a five member board to license practitioners and to promulgate rules and regulations governing the profession. This act would take effect upon

(Continued on next page)

Bills of Interest

(Continued from page 1)

passage. The Public Laws Committee disapproves this bill.

78-H 7707 (Grande) — *An Act Relating to Prescriptions.* This act would require a physician to print rather than write prescribed drug prescriptions. This act would take effect upon passage. The Public Laws Committee disapproves this bill.

78-H 7241 (Fay, Kiley and McFarland) — *An Act Providing for Medicaid Coverage for Certain Surgical Services.* This act would amend the state Medicaid law to provide coverage for outpatient surgical and related services performed at surgical centers which meet the standards set forth in the act. This act would take effect upon passage. The Public Laws Committee approves this bill with a reservation regarding the ability to monitor such a facility.

78-H 7422 (Durand, Connors, Carciere, Healy, Scott, et al) — *An Act Relating to Dispensing Drugs and Labeling Prescription Products.* This act would add law enforcement provisions to the existing laws pertaining to the dispensing of drugs and labeling of prescription drugs and provide for savings to the consumer when pharmacists dispense generic drugs in place of prescribed brand name drugs. This act would take effect upon passage. Has not been reviewed yet by the Public Laws Committee.

78-H 7522 (Lederberg, Teitz, Kearns, Friedemann and Begin) — *An Act to Require the Confidentiality of Health Care Information.* This act provides for the confidentiality of medical records and further provides for disclosure to third parties under limited and specified circumstances. In addition thereto it provides for civil and criminal penalties for anyone who violates the provisions of this act. This act would take effect upon passage. The Public Laws Committee approves this bill.

78-H 7497 (Cardente, Lederberg) — *An Act Relating to Nursing Homes.* This act repeals that section of the General Laws providing that nursing a deceased person until they have been pronounced dead by a licensed physician. This act would take effect upon passage. The Public Laws Committee approves this bill.

We would appreciate your comments in writing on any of the above bills.

LADD SCHOOL

Our sincere appreciation to the 119 physicians who volunteered their time for the Screening Physical Examination Program at the Ladd School.

MEMBERSHIP

Membership in the Rhode Island Medical Society is worthwhile. If you know of a colleague who does not belong, urge him to join — and tell him he can get all the infromation he needs from the Executive Office (331-3207). You will be doing your non-member colleague a favor, and you will be helping to strengthen your society.

CME Credits

Late next year (1979) all physicians will be required by law to have available evidence of 60 CME credits for relicensure in 1980. Remember you can count any credits earned from 3-1-76 through 12-31-76 towards your total. Don't wait until the last minute — "tempus fugit."

Temporary Disability Insurance

Senator James J. Federico, Jr. has expressed concern over the failure of some physicians to promptly complete a patient's TDI form resulting in that individual experiencing delay in collecting his sick benefits. Your cooperation in this matter would be most appreciated. The Senator has indicated that unless the situation improves he would feel compelled to introduce legislation to ensure that these benefits are not unduly delayed during a time of need.

Certificate of Need Bill

A Certificate of Need Bill has be drafted containing the absolute mi mum requirements of the Rhode l land Medical Society, excluding the fice(s) of the private practitioner, group of private practitioners; "brid and mortar" as used in the constructi of an office building by private phy cians are exempt from a certificate need; the purchase of a single piece equipment (including componen which exceeds $150,000 will require certificate of need approval.

Disabled Physician Assistance

A reminder that the House of De gates of the Rhode Island Medical S ciety has approved a mechanism helping the Disabled Physician. If are aware of any physician who m have a problem with alcohol, drugs, whose competency to practice is doubt due to physical or emotional ness, you can do your colleague a gr service by reporting this information the Executive Office in order that matter may be investigated and the habilitation process initiated.

REMINDER

Rhode Island Medical Society An al Meeting — Wednesday, May 1978 — Cranston Hilton — plan spending the afternoon and even with us — the afternoon offers grams by many specialty societies lowed by the R.I.M.S. Annual M ing and the Chapin Oration. C credits for participation — the even program is purely social, dinner dancing, no speakers.

BROWN UNIVERSITY

DIVISION OF BIOLOGY AND MEDICINE

Providence, Rhode Island 02912

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CONTINUING MEDICAL EDUCATION CALENDAR

MARCH

29 SEMINAR ENTITLED: "NONINVASIVE EVALUATION OF THE PATIENT WITH ISCHEMIC HEART DISEASE." Topics will include: "Survey of Noninvasive Diagnostic Techniques in Cardiology," Arthur Sasahara, M.D., Chief of Medicine, U.S. Veterans Administration Hospital, Roxbury, Massachusetts; Professor, Harvard Medical School; "Myocardial Infarct Imaging," Leonard B. Holman, M.D., Chief of Clinical Nuclear Medicine, Peter Bent Brigham Hospital, Boston, Massachusetts; Associate Professor of Radiology, Harvard Medical School; Established Investigator, American Heart Association; "Evaluation of Left Ventricular Function and Stress Testing with Radionuclides by Gated Images," Gerald Pohost, M.D., Assistant Professor in Medicine at the Massachusetts General Hospital, Boston, Massachusetts; "Evaluation of Left Ventricular Function by Single Pass Studies," Donald Tow, M.D., Chief, Nuclear Medicine Service, U.S. Veterans Administration Hospital, West Roxbury, Massachusetts; "Stress Testing with ECG Monitoring," Richard A. Carleton, M.D., Chief, Division of Cardiology, The Memorial Hospital, Pawtucket, R.I.; Professor of Medicine, Brown University, Providence, R.I.; "Physical Concepts of Ultrasound in Diagnostic Medicine," Paul H. Brown, Ph.D., Instructor, Radiation Physics, Brown University, R.I.; Physicist-in-Charge, U.S. Veterans Administration Hospital, Providence, R.I.; "Echocardiography in Evaluation of Left Ventricular Function," John O. Pastore, M.D., Director, Noninvasive Cardiac Laboratory, St. Elizabeth's Hospital, Boston, Massachusetts; Assistant Professor of Medicine, Tufts University, Boston, Massachusetts. Marriott Inn, Providence, R.I., 9:00 a.m. to 5:00 p.m. For further information, contact the R.I. Affiliate of the American Heart Association, attention Mr. Dave Chatel, 728-5300.

APRIL

14 "EXPRESSION OF SICKLE CELL DISEASE IN INFANCY," Audrey K. Brown, M.D., State University of NYC — Downstate. Pediatric Teaching Rounds, Kay Auditorium, Roger Williams General Hospital. 10:30 a.m. to 12:00 p.m.

15 "MANAGEMENT OF THE ALCOHOLIC PATIENT," Kenneth H. Williams, M.D., Associate Professor of Psychiatry and Internal Medicine, Univ. of Pittsburg School of Medicine; Director, Alcohol-Drug Abuse Clinic, Western Psychiatric Institute and Clinic, Pittsburg, Pa. Seminar 10-12 noon. AV Room, Newport Hospital.

26 SYMPOSIUM ON ARTHRITIS ENTITLED "MANAGEMENT OF COMMON RHEUMATIC DISEASES." Symposium will include lectures and workshops for the primary care physician and health care professional. Sponsored by the Brown University Program in Medicine, The Rheumatology Center of the Roger Williams General Hospital and the Rhode Island Chapter of the Arthritis Foundation. Registration 8:30 a.m. Lectures 9:00 a.m. to 4:00 p.m. Sheraton Islander, Goat Island, Newport, R.I. For further information, contact Dorothy Rosenberg 456-2069.

MAY

6 "NUCLEAR MEDICINE IN MEDICAL AND SURGICAL PRACTICE," Henry N. Wagner, M.D., Professor of Medicine, Radiology and Environmental Health, Johns Hopkins Medical School; Head, Division of Nuclear Medicine and Radiation Health, Johns Hopkins Medical Institutions. Seminar 10-12 noon. Luncheon follows at noon to 1 p.m., Pier Restaurant, Newport, Those wishing to attend this Newport Hospital Postgraduate Medical Seminar who are not members of the Newport Medical Society are welcome. However, they should call Mrs. Elizabeth Cranston, 1-401-846-6400, Ext. 445 for luncheon reservations. There is a charge of $7.00 per person for non-members.

12 "MANAGEMENT OF INCREASED INTRACRANIAL PRESSURE," Charles Barlow, M.D., Harvard Medical School. Pediatric Teaching Rounds, Kay Auditorium, Roger Williams General Hospital. 10:30 a.m. to 12:00 p.m.

JUNE

9 "THYROID DISEASE IN CHILDREN," Robert M. Blizzard, M.D., University of Virginia Medical School. Pediatric Teaching Rounds, Kay Auditorium, Roger Williams General Hospital. 10:30 a.m. to 12:00 p.m.

BROWN UNIVERSITY
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A Message From The Dean

THE PHYSICIAN AS EDUCATOR

It is customary to note that the duties of present-day medical schools are effectively defined within the perimeter of education, research and service. Certainly nobody doubts that much of our conscious energies are consumed in introducing medical students to the science and arts of human medicine: teaching them how to serve. To a variable measure we also reveal to them the techniques, the premises and the joys of biomedical investigation; but it is truly doubtful that we have invested much creative consideration, much less curricular time, in their education as future educators.

The Hippocratic Oath enjoins us to impart knowledge of the art of medicine to our sons, our disciples and the offspring of our teachers. And while the Oath leaves something to be desired in terms of equal opportunity and admissions policies, it clearly mandates our profession to assume the obligation of educating our future colleagues. Few physicians would debate the premise that we first persuade and counsel some medical students to enter the future ranks of some medical school faculty. The act of replicating ourselves is more than an idle vanity. It is a response to the unambiguous need that this profession prevail and that its teachers be the guardians of rigidly observed professional standards. Yet it is a curious commentary on the American educational enterprise that **formal** training in pedagogy is demanded only of our primary and secondary school teachers while in centers of higher learning the educable arts of teaching are left to the mercies of happenstance. The roster of qualifications for a professor of medicine, for example, never lists courses in education; somehow we assume that the candidate is either inately endowed with or will mysteriously be granted the genes needed for effective teaching. The wide variation in teaching capabilities shown by the typical medical faculty is testament to our carelessness in this regard. Brown is presently no better than its sister institutions in paying mind to the art of teaching. Even if medical schools accept teaching as a necessary role for their graduates (without concurrently insisting that the teacher be taught), the vagueness persists since we do not specify who is to be taught. For example, once teaching skills are developed by the physician, should their use be restricted to the educational communication between physician and physician-to-be. Might these skills have a market far broader than the new candidates for medicine and allied fields? Should perhaps the medical student be additionally instructed in the merit, indeed the need, to be an effective educator, as well as physician, for his patients?

In matters as simple as drug use instructions to patients, surveys tell us that confusion and misinterpretation are experienced more commonly than clarity. Some therapeutic failures may indeed be only failures of communication.

The role of the physician as one who can exert an effective influence on the quality and duration of his patient's life is defined somewhat by the extent to which he is provided with technologic insights and pharmacologic tools. But while the prospect of new technical advances are necessarily limited the possibilities for educational counseling are broad. How often a few minutes of rational explanation can dispell ill-conceived mythology; how often candid

and realistic descriptions can diminish a patient's anxieties and lessen the feelings of alienation between physician and patient?

The physician-as-teacher can truly exert a measurable influence on the lives of his patients. The urban world of the 1970's is a risky place for all of us, and judicious instruction on careful diet, avoidance of ecologic hazards and prudent life-styles can be of major help in a safe transition from childhood to late maturity. It is not my intent to suggest that facile conversation, alone, determines the value of a physician. Certainly, ability to communicate must be wedded to professional competency. (Many of you will remember a famous cartoon showing a physician confronting a worried patient; that physician says, "Mrs. Brown, you have disseminated lupus. Now, shall we discuss Proust").

The medical school, if it so elects, can elevate teaching to a level as exhalted as the more traditional physician skills of diagnostic and therapeutic competency.

Stanley M. Aronson, M.D.
Dean of Medicine
Brown University

——— ‡ ———

Physicians Seeking Opportunities in R.I.

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Specialty: Urology

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Specialty: Orthopedics

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21 Woodman Street
Boston, MA 02130
Specialty: Internal Medicine

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Justin MacCarthy, M.D.
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Specialty: General Surgery

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Rhode Island Medical Society Necrology—1977

ERCOLE ADDONIZIO, M.D.

Doctor Ercole Addonizio, Providence physician, died March 13, 1977, at the age of 61. Doctor Addonizio had been a member of the staffs of Roger Williams General Hospital, St. Joseph's Hospital, John F. Fogarty Memorial Hospital, the former McAlpine Memorial Hospital, and senior physician at Dr. U.E. Zambarano Memorial Hospital. He was a graduate of Cushing Academy; Colby College, Waterville, Maine; and the Hahnemann Medical College in Philadelphia.

ALDEN BLACKMAN, M.D.

Doctor Alden Blackman, Providence gastroenterologist, died on June 3, 1977. He was 41 years old. Doctor Blackman, was a clinical assistant professor in the Brown University medical program and chief of the section of gastroenterology at Roger Williams General Hospital, and an associate physician at the Rhode Island Hospital. His memberships included the American Board of Internal Medicine, the American College of Physicians, the board of trustees of the Jewish Home for the Aged, and the Education Committee of the American Cancer Society. Doctor Blackman was an alumnus of Classical High School, Dartmouth College and the University of Vermont Medical School.

LOUIS BURNS, M.D.

Doctor Louis Burns, Newport physician, died August 13, 1977, at 74 years of age. Doctor Burns was a former chief of medicine at Newport Hospital. He was a member of the American Geriatrics Society, the Phlebology Society of America, the American College of Anginology, the New England and American Diabetes Societies, and the International Leprosy Association. He also was active in the Providence College Alumni Association; the Louis E. Burns Award, named in honor of his work for the college, is given through the college's Newport County Alumni Association to an outstanding Providence College graduate. Doctor Burns studied medicine at St. Louis School of Medicine.

JAMES C. CALLAHAN, M.D.

Doctor James C. Callahan, former chief of surgery at Newport Hospital, died on February 19, 1977, at the age of 73. Doctor Callahan's numerous memberships include the New England Surgical Society, the New England Cancer Society, the Providence Surgical Society, the Daland Society, the American Board of Surgery, and he was a Fellow of the American College of Surgeons. He was a graduate of Harvard College and the Harvard Medical School.

PETER CHUDOLIJ, M.D.

Doctor Peter Chudolij, Providence family practitioner, died on September 1, 1977, at 59 years of age. Doctor Chudolij was on the staff of Roger Williams General Hospital; and he was a clinical instructor in medicine at Brown University, Division of Biology and Medicine. Doctor Chudolij was educated in the Ukraine.

HARALAMBIE G. CICMA, M.D.

Doctor Haralambie G. Cicma, Providence dermatologist since 1926, died March 24, 1977. He was in his mid-eighties. Doctor Cicma was former chief of dermatology of the Homeopathic Hospital (now Roger Williams General Hospital). During World War II he served as dematologist for Medical Advisory Board No. 3 of Rhode Island; and he received numerous awards and citations for other professional acticities as well. He was a graduate of Boston University and the Harvard Medical School.

RAWSER P. CRANK, M.D.

Doctor Rawser P. Crank, Cranston immunologist, died on September 28, 1977, at the age of 79. Doctor Crank was a major in the Army Medical Corps in World War II,

and had also served in World War I. The doctor was affiliated with Rhode Island Hospital, Roger Williams General Hospital, and the Rhode Island Medical Center; and he was a diplomate on the National Board of Medical Examiners. Doctor Crank was educated at Drury College and Washington University School of Medicine.

GEORGE A. CREPEAU, M.D.

Doctor George A. Crepeau, a well-known pediatrician of Woonsocket, died February 28, 1977, at 70 years of age. Doctor Crepeau was a past president of the Woonsocket District Medical Society. Among his numerous memberships were the Boston City Hospital Alumni Association, the New England Pedriatic Society, and the pediatric section of the American Medical Association. He was a graduate of Assumption College in Worcester and the Boston University School of Medicine.

L. ADDISON CURREN, M.D.

Doctor L. Addison Curren, Cranston physician, died July 23, 1977, at 73 years of age. Doctor Curren was the Cranston city physician for ten years and was on the staffs of Miriam, St. Joseph's, and Roger Williams General Hospitals. During World War II he was a captain in the Army Medical Corps, and retired as a major. He had been graduated from the University of Maine in 1926 and from McGill University Medical School in 1931.

BRUNO G. DEFUSCO. M.D.

Doctor Bruno G. DeFusco, a. Providence pediatrician for 40 years, died on February 19, 1977, at the age of 70. Doctor DeFusco served on the pediatrics staffs of the former Charles V. Chapin Hospital, the Women & Infants Hospital, and the Rhode Island Hospital. The doctor was an alumnus of Classical High School, Brown University, and Boston University Medical School.

DOMINIC P. FERRUCCI, M.D.

Doctor Dominic P. Ferrucci, Woonsocket physician, died on November 17, 1977, at the age of 68. Doctor Ferrucci had been on the staffs of the Woonsocket Hospital and the John E. Fogarty Memorial Hospitals. He was educated at Boston University and the University of Rome Medical School.

FRANK T. FULTON, M.D.

Doctor Frank T. Fulton, practicing physician in Providence for more than fifty years, died on April 10, 1961, at the age of 93. Doctor Fulton was born in Westmoreland County, Pennsylvania, on April 28, 1867. During the early years of the century, he was an instructor in histology at Brown University. He later was cardiologist at the Providence Lying-In Hospital. In World War I he was commissioned a major in the Army Medical Corps and served as chief of the medical staff at the base hospital, Camp Devens. He developed the "heart station" at Rhode Island Hospital and served as a consultant there for many years. Doctor Fulton was a member of the consulting staffs of Rhode Island Hospital, Providence Lying-In Hospital, the Memorial Hospital in Pawtucket, and South County and Westerly Hospitals. He was a past president of the Providence Medical Association, the Rhode Island Medical Society, and the New England Heart Association. Doctor Fulton graduated from Knox College in Illinois and Johns Hopkins University Medical School.

HARRY JACOBS, M.D.

Doctor Harry Jacobs, Chepachet physician, died March 26, 1977, at the age of 70. Doctor Jacobs was a captain in the Army Medical Corps and served five years in the Pacific theater during World War II. He was a graduate of Tufts College and Tufts Medical School.

EDWARD H. McCAUGHEY, M.D.

Doctor Edward H. McCaughey, Pawtucket physician, died on December 9, 1977, at 74 years of age. Doctor McCaughey was a Navy veteran of World War II; he was for several years a staff member at Memorial Hospital; and he was, also, past president of the Pawtucket Medical Association. Doctor McCaughey graduated from LaSalle Academy, Providence College, and Boston University Medical School.

M. LEO PRANIKOFF, M.D.

Doctor M. Leo Pranikoff, Providence ophthalmologist, died July 31, 1977, at the

age of 52. Doctor Pranikoff was associate clinical professor of ophthalmology at Brown University medical school, and he was chief of the department of ophthalmology at Miriam Hospital. During World War II he served as a medical corpsman in France with the 14th Armored Infantry Division. Doctor Pranikoff was an alumnus of Tufts College and Tufts Medical School.

ALFRED M. TARTAGLINO, M.D.

Doctor Alfred M. Tartaglino, Newport general practitioner for 43 years, died on September 9, 1977 at the age of 72. Doctor Tartaglino was affiliated with the Newport Hospital; and he was past president of the medical staff there. He was a graduate of Georgetown University and Georgetown Medical School.

GENARINO R. ZINNO, M.D.

Doctor Genarino R. Zinno, Providence general practitioner, died on January 15, 1977, at 66 years of age. Doctor Zinno was a former chairman of the Rhode Island Advisory Council on Health. He was a resident physician at the Rhode Island Medical Center in 1939 and assistant supervisor at the Charles V. Chapin Hospital in 1940. Most recently he was on the staffs of Roger Williams General Hospital and St. Joseph's Hospital. Doctor Zinno graduated from Classical High School, Providence College, and Georgetown University Medical School.

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Please consult complete prescribing information, a summary of which follows:

Indications: Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows.

"Possibly" effective: as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.

Final classification of the less-than-effective indications requires further investigation.

Contraindications: Glaucoma, prostatic hypertrophy, benign bladder neck obstruction; hypersensitivity to chlordiazepoxide HCl and/or clidinium Br.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librium® (chlordiazepoxide HCl) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.**

As with all anticholinergics, inhibition of lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship not established.

Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction; changes in EEG patterns may appear during and after treatment, blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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Often a significant feature of irritable bowel syndrome*

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Librax is unique among GI medications in providing the specific antianxiety action of Librium® (chlordiazepoxide HCl) as well as the potent antisecretory and antispasmodic actions of Quarzan® (clidinium Br) for adjunctive therapy of irritable bowel syndrome* and duodenal ulcer.

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brief summary of prescribing information on preceding page.

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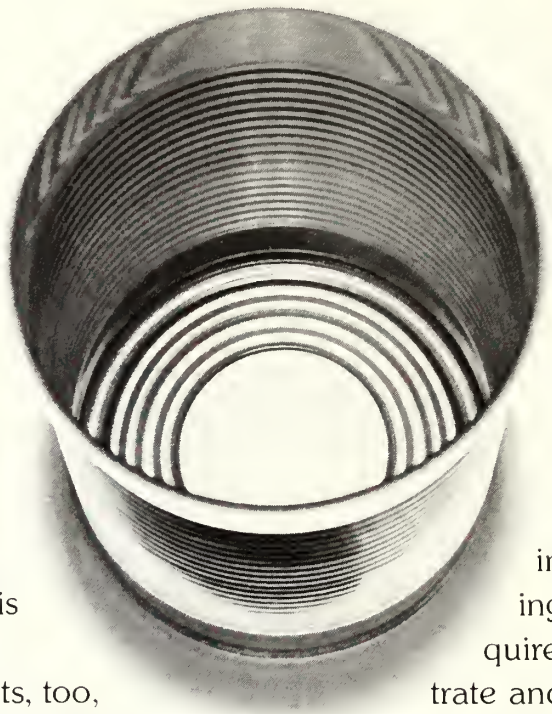

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When pain complicates acute cystitis*

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Each tablet contains 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl

for the pain

for the pathogens

□ **Early relief of painful symptoms** such as burning and pain associated with urgency and frequency.

Nonobstructed; due to susceptible organisms

□ **Effective control of susceptible pathogens** such as *E. coli, Klebsiella-Aerobacter, Staph. aureus, Proteus mirabilis* and, less frequently, *Proteus vulgaris.*

□ **Appropriate antibacterial therapy:** up to three days therapy with Azo Gantanol, then 11 days with Gantanol® (sulfamethoxazole), 0.5 Gm tablets.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: In adults, urinary tract infections complicated by pain (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella-Aerobacter, Staphylococcus aureus, Proteus mirabilis* and, less frequently, *Proteus vulgaris*) in the absence of obstructive uropathy or foreign bodies.

***Note:* Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides.** Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Children below age 12; sulfonamide hypersensitivity; pregnancy at term and during nursing period; because Azo Gantanol contains phenazopyridine hydrochloride it is contraindicated in glomerulonephritis, severe hepatitis, uremia, and pyelonephritis of pregnancy with G.I. disturbances.

Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *G.I. reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

Dosage: Azo Gantanol is intended for the acute, painful phase of urinary tract infections. *Usual adult dosage:* 2 Gm (4 tabs) initially, then 1 Gm (2 tabs) B.I.D. for up to 3 days. If pain persists, causes other than infection should be sought. After relief of pain has been obtained, continued treatment with Gantanol (sulfamethoxazole) may be considered.

Note: Patients should be told that the orange-red dye (phenazopyridine HCl) will color the urine.

Supplied: Tablets, red, film-coated, each containing 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl—bottles of 100 and 500.

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MAKES SENSE

Before prescribing, see complete prescribing information in SK&F Co. literature or PDR. A brief summary follows:

* **Warning**
This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

* **Indications:** When the combination represents the dosage determined by titration: Adjunctive therapy in edema associated with congestive heart failure, hepatic cirrhosis, the nephrotic syndrome. Corticosteroid and estrogen-induced edema, idiopathic edema; hypertension, when the potassium sparing action of triamterene is warranted. (See Box Warning.) Routine use of diuretics in healthy pregnant women is inappropriate; they are indicated in pregnancy only when edema is due to pathological causes.

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 and 1000 capsules; Single Unit Packages of 100 (intended for institutional use only).

FOR LONG-TERM CONTROL OF HYPERTENSION.* SERUM K^+ AND BUN SHOULD BE CHECKED PERIODICALLY. (SEE WARNINGS SECTION.)

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This potent broad-spectrum antibacterial provides overlapping action to help combat infection caused by common susceptible pathogens (including staph and strep). The petrolatum base is gently occlusive, protective and enhances spreading.

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Pseudomonas
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h gram contains: Aerosporin® brand Polymyxin B
ate 5,000 units; zinc bacitracin 400 units; neomycin
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RNING: Because of the potential hazard of nephro-
city and ototoxicity due to neomycin, care should be
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re absorption of neomycin is possible. In burns
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When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.

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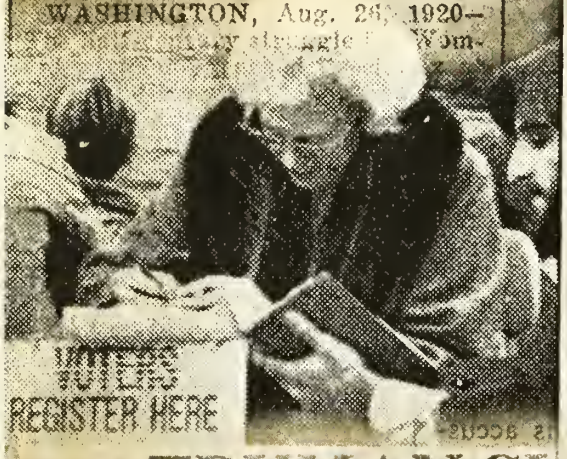

Social Security Bill Is Signed; Gives Pensions to Aged, Job

Roosevelt Approves Message Intended to Benefit 30,0 Persons When States Adopt Cooperating Laws–He the Measure 'Cornerstone' of His Economic Progr

WASHINGTON, Aug. 1 The Social Security Bill, p a broad program of unemp insurance and old age p and counted upon to bene 20,000,000 persons, becam day when it was signed b dent Roosevelt in the pre those chiefly responsible ting it through Co

Mr. Roosevelt cal "the cor erstone which is being me s c mple ri to

SENATE APPROVES 18-YEAR OLD VOTE IN ALL ELECTIONS

Amendment to Constitution is Sent to House, Where Passage is Expected

WASHINGTON, March 10, 1971—The Senate approved today, 94 to 0, and sen

TRUMAN CLOSES TED NATIONS CONFEREN WITH PLEA TO TRANSLATE CHARTER INTO DEEDS

NEW WORLD HOPE

President Hails 'Great Instrument of Peace,' Insists It Be Used

HISTORIC LANDMARK

Meeting Gives Standing Ovation as Executive Pictures Peace Gain

"If we fail to use it," he declared to the solemn final meeting of the delegates, 'we shall betray all of those who have died in order that we might meet here in freedom and safety to create it.'

"If we seek to use it selfishly—for the advantage of any one nation or any small group of nations—we shall be equally guilty of that betrayal."

Fervent Interpolation

The President, speaking in the auditorium of the War Memorial Opera House, built in memory of sons of the Golden Gate city who gave their lives in the first World War, in which he himself served, seemed to give unconscious expression to the solemn feeling of the occasion when, at the outset of his speech, he interpolated the words, half a hope, half a prayer:

"Oh, what a great day this can be in history!"

Just before the plenary session the President accompanied the

SIGNS the Draft Ends No

WASHINGTON, Jan. 27, 1973—"With the signing of the peace agreement in Paris today, and after receiving a report from the Secretary of the Army that

PATIENT PACKAGE INSERTS: A CONCEPT WHOSE TIME HAS COME?

The consumer's right to know is an irreversible and desirable trend of the Seventies. It extends, and properly, to a patient's right to know more about his or her prescription medications. One way, gaining favor, is through patient package inserts. Wisely-prepared and properly distributed when medically indicated, they could markedly improve patient knowledge and drug therapy—laudable goals by anyone's standards.

The PMA endorses these goals and will work with government, the health professions and consumers to achieve them.

The Advantages

The concept holds promise of benefits: better patient understanding of the product prescribed, better adherence to the treatment plan, and more awareness of possible side reactions.

Every doctor has had patients who fail to finish antibiotic regimens because they feel better. Some patients assume that if one tranquilizer or analgesic is good, two may be twice as good. Still others fail to report dizziness while on antihypertensive therapy —and so on.

Problems like these might arise less often if the patient received written information in addition to verbal instructions. Some studies suggest that patients are more receptive to such materials, and they more often understand the verbal instructions and follow them, when inserts are used.

The Disadvantages

There are also some potential problems. Obviously, the inserts must be clearly phrased, without extraneous or complex detail. How much information is enough? How can it be kept current? Should all patients receive the same information? Should inserts be included with all drugs? Should only potential problems be listed or are patients better off with a "fair balance" presentation that describes usefulness as well as drawbacks?

These and similar questions require answers, since model inserts have yet to be properly developed and tested. Despite the need for these studies, the FDA is proceeding prematurely with inserts on selected products. We think the Congress is the only place where the matter can be given the proper legal status and direction, particularly since it represents a conceptual change in the legal, medical and social framework of the nation's prescription drug information system.

The Solution

The PMA believes that carefully-devised pilot studies of various kinds of inserts are needed. They should be developed and implemented with full participation by doctors, pharmacists, consumers, communications experts and the drug industry. Such studies will provide reliable pathways to follow, so that inserts will be useful aids to medical practice.

And particularly we think that you should be closely involved in this debate and in these studies and decisions. Otherwise, people with less experience and qualifications may control the purposes, content and use of a tool with considerable promise for improved patient care. It could make a difference in your practice tomorrow, and more importantly, in the health of your patients.

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Ampoules, equivalent to 500 mg., 1 Gm.,
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Depression And Its Treatment

Management Of Endogenous Depression Is Facilitated By The Judicious Use Of Antidepressants

By Peter P. Reilly, M.D.

Depression is a complex phenomenon which, despite a long history of study, is still incompletely understood. It is a syndrome in which remission and impaired life expectancy are highly probable. It is our purpose in this paper to attempt, not to redefine or revise the nosology of the disorder, but rather to review what is known and then dwell on treatment.

Among the various types of depression are the following: 1. atypical, 2. hysteroid, 3. hysteroid dysphoric, 4. refractory, 5. agitated, 6. involutional melancholia, 7. manic depressive (manic, depressive type, bipolar), 8. psychotic, and 9. neurotic reactive.

An endogenous (chemical) type of depression can present as a deep depression in which there is retarded motor activity or symptoms of agitation. Usually, there are vegetative signs such as anorexia, constipation, insomnia, and multiple gastrointestinal tract and organ system symptomotology.

PETER P. REILLY, M.D., *Child-Adult Psychiatrist, formerly Clinical Instructor in Psychiatry at Harvard Medical School; currently on Active Staff at St. Joseph's Fatima Hospital and Consulting Staff of Miriam Hospital, Providence, RI.*

Neurotic reactive depression can have its origins in childhood loss whether this loss be real, imagined, or fantasied. This may produce adult vulnerability to depression. The incorporation of a low self-image from angry hostile parents may render the patient vulnerable to criticism as an adult.

Atypical depression can be precipitated acutely in a previously well-adjusted person, and the mood can vary from day to day. It may be masked by phobic anxiety and present with hysterical features. Somatic symptoms such as restless sleep, fatigue, irritability, and gastrointestinal dysfunction are common. Endogenous symptoms such as weight loss and early morning awakening occur irregularly.

Hysteroid dysphoria is a chronic personality style unlike atypical depression, which is not chronic. Symptoms may occur in relation to external events, but this relationship is often not present. It occurs especially in females where the mood is described as shallow, labile, and dependent on external sources of approval. Personality is described as histrionic and seductive. The patient may describe feelings of depression but seldom has vegetative symptoms and remains quite active. The syndrome may occur secondary to a primary affective disorder.

Psychotic depression usually is manifested by feelings of despair, helplessness,

hopelessness, and "emotional bankruptcy" and may be interpreted as an endogenous depression. It may be associated with delusions and hallucinations.

EPIDEMIOLOGY

The relatives of patients with early onset affective disorders, especially before the age of 40 years, are likely to have a higher risk of developing a disease than are relatives of patients who become ill after the age of 40 years.[1] The incidence of recent parental death is significantly higher in severely depressed early onset depressed patients than one would expect by chance. For all depressives one should be on the lookout for a family history of depression or a clinical picture of anxiety neurosis, alcoholism, or hysteria, which may manifest themselves as depression, but never as mania. It has been found in many studies that 15 per cent of depressions are unprecipitated, especially in the severely depressed. In the case of bipolar manic depressives a family history of bipolar illness or a history of hypersomnia are significant, while unipolar depressives often give a family history of depression with symptoms of hyposomnia and a history of weight loss. Among patients with depression those in the upper socioeconomic group seem to have a better prognosis. Fifteen per cent of adults between the ages of 18 and 74 suffer serious depressions some time in their lives. Statistics seem to indicate that women have a greater tendency toward depression than men with a ratio of 2 to 1. World statistics show that the indidence of depressive illness is 3 to 4 per thousand of population. It has been established in numerous studies that manic depressive patients have a shortened life span, even when the effect of suicide is excluded.[2]

NEUROCHEMISTRY AND NEUROPHYSIOLOGY OF DEPRESSION

The biological psychiatrist understands depression as a genetic vulnerability of the central nervous system, which is depleted of biogenic amines (catecholamines such as dopamine and norepinephrine, and the indolamines such as serotonin). More recently implicated are cholinergic dominance or reversible deficits, defects, or lesions that affect the anatomical or chemical integrity of the reinforcement system of the diencephalon interfering with its ability to respond to environmental stimuli. Evidence from extensive animal pharmacological research suggests that the biogenic amines play an important role in modulating the function of the medial forebrain bundle (MFB) and the periventricular system (PVS), which represent the neuroanatomical components of "reward" and "punishment".[3] Amphetamines have been found to increase drive, motivation, and psychomotor activity. Medication such as the tricyclic antidepressants potentiate the action of amphetamines.[4]

According to Stein MFB serves as a "behavior-facilitating" or "go" mechanism that initiates facilitative feedback and increases the probability that the behavior will persist to completion. The PVS antagonizes the MFB, a complex interracting system that exercises inhibitory control of "on-going behavior". Disturbance in the functional level of the biogenic amines disrupts the ability of the organism to experience pleasure with resultant impairment of the psychomotor functions and biological drives.

Drugs such as the tricyclic antidepressants and the monoamine oxidase inhibitors (MAOI) elevate the central level of catecholamines and indolamines and thus alleviate depression. Schildkraut[5] links behavior to brain chemistry. The pharmacological evidence that implicated the biogenic amines (catecholamines and indolamines) in depression did not favor one class over another. For example, reserpine has been found to precipitate depression in 15 to 20 per cent of hypertensive patients by depleting the brain of dopamine, norepinephrine, and serotonin.

Two research programs[2,6] have been instituted to test the catecholamine (norepinephrine and dopamine) and indolamine (serotonin) levels in patients. One approach was "the precursor loading technique" which consisted of administering the precursor amino acids of the respective biogenic amines with subsequent observation. A more direct approach[6] was measurement of the metabolites of these amines in the brain (post-mortem) and body fluids of depressed patients. Coppen et al, cited by Schildkraut, found the serotonin precursor L-tryptophan to be an effective antidepressant with or without MAOI. Klerman et al[2,7] found L-dopa to be disappointing as an antidepressant except in

certain retarded depressives. The literature[2] shows that L-dopa used in the treatment of Parkinson disease can cause depression, hypomania, and delirium. L-dopa raises catecholamine levels, which many account for the hypomania, and lowers brain serotonin, which probably accounts for its depressive effect. Shaw et al, cited by Schildkraut, reported subnormal levels of metabolites and normal levels of norepinephrine metabolites in the hindbrain of depressive suicides. The "probenecid technique," which selectively permits the cerebrospinal fluid (CSF) accumulation of central 5-hydroxyindolacetic acid (5-HIAA), lends support to the idea that serotonin turnover is decreased in depression.

Bielski et al[8] reported low levels of 3-methoxy-4-hydroxy-phenylglycol (MHPG) in the urine in depression, returning to normal with successful treatment with tricyclic antidepressants. On the other hand studies at the National Institute of Mental Health (NIMH) showed a correlation between MHPG and psychomotor activity. Lowered levels of homovanillic acid (HVA), the dopamine metabolite, appearing in CSF of retarded depressives suggests the catecholamines correlates with psychomotor function rather than depression.

There is a growing consensus concerning the role of lowered serotonin levels in both depression and mania and elevated catecholamines in the switch process from depression to mania (Table II). Prange's "permissive amine hypothesis"[5] of affective disorders is an elegant synthesis of the current data on biogenic amines and depression, and it states that central serotonergic deficiency may represent the vulnerability to affective illness, lowered catecholamines correlating with depression and increased catecholamines with mania.

Depression and mania are viewed as a continuum rather than as polar opposites, mania representing a more drastic deviation from the normal mood.

According to Court, cited by Bielski, manics have more pronounced reactions of arousal, insomnia, and anorexia and manifest an increase in residual sodium. The manic phase usually preceded by a short period of mild depression. Mendelsohn et al, cited by Bielski, based on their studies have concluded that depletion of brain norepinephrine, dopamine, or serotonin was

TABLE I

Effect of Certain Medications on Neurotransmitters

	Serotonin	Norepinepherine	Dopamine
TRICYCLIC ANTIDEPRESSANTS:			
amitriptyline	Elevates	? Slight Elevation	No Effect
protriptyline	Elevates	Elevates	? Slight Elevation
imipramine	Elevates	Elevates	? Slight Elevation
desipramine	Slight Elevation	Elevates	? Slight Elevation
nortriptyline	Elevates	Elevates	? Slight Elevation
MONOAMINE OXIDASE INHIBITORS:			
tranylcypromine	Elevates	Elevates	Elevates
phenelzine	Elevates	Elevates	Elevates
isocarboxzid	Elevates	Elevates	Elevates
nialamide	Elevates	Elevates	Elevates
LITHIUM CARBONATE	? Elevates & Decreases	? Elevates & Decreases	? Elevates & Decreases
BENZODIAZOPINES:			
diazepam	Decreases	? Decreases	No Effect
oxazepam	Decreases	? Decreases	No Effect
ANTIPSYCHOTICS:			
phenothiazines	? Slight Increase	? Slight Increase	Decreases
haloperidol	? Slight Increase	? Slight Increase	Decreases
thiothixene	? Slight Increase	? Slight Increase	Decreases
molindone	? Slight Increase	? Slight Increase	Decreases

TABLE II

Effectiveness of Certain Medications in Various Types of Depressions

	Endogenous Depression	Atypical Depression	Refractory Depression	Hysteroid Depression	Agitated Depression	Unipolar Depression	Reactive Neurotic Depression	Usual Initial Dosage Range
TRICYCLIC ANTIDEPRESSANTS:								
Elavil® (amitryptyline)	1 - 4	1 - 3	1 - 2	0 - 1	1 - 2	1 - 4	0 -2	50 - 150 mg
Norpramin® (desipramine)	1 - 4	1 - 2	1 - 2	0 - 1	1	1 - 4	0 - 1	50 - 150 mg
Vivactyl® (protriptyline)	1 - 3	1 - 3	1 - 3	0 - 1	1	1 - 4	0 - 1	10 - 30 mg
Aventyl® (nortriptyline)	1 - 3	1 - 2	1 - 2	0 - 1	1	1 - 4	0 - 1	50 - 150 mg
Sinequan® (doxepine)	1 - 3	1 - 3	1 - 2	0 - 1	1 - 2	1 - 3	0 - 1	50 - 150 mg
MAOI:								
tranylcypromine	1 - 3	1 - 3	1 - 2	0 - 1	0 - 1	1 - 3	0 - 1	10 mg, bid - tid
phenelzine	1 - 3	1 - 3	1 - 2	0 - 1	0 - 1	1 - 3	0 - 1	15 mg, bid - tid
isocarboxazid	1 - 3	1 - 3	1 - 2	0 - 1	0 - 1	1 - 3	0 - 1	10 mg, bid - tid
nialamide	1 - 3	1 - 3	1 - 2	0 - 1	0 - 1	1 - 3	0 - 1	75 - 150 mg
TRICYCLICS AND MAOI*	1 - 4	1 - 4	1 - 4	0 - 1	0 - 2	1 - 4	0 - 1	
LITHIUM CARBONATE	1 - 3	1 - 3	1 - 2	0 - 1	0 - 2	0 - 3	0	600 - 900 mg
TRICYCLICS AND $LiCO_3$	2 - 4	2 - 4	2 - 4	1 - 2	0 - 2	2 - 4	0 - 1	
BENZODIAZEPINES AND TRICYCLICS	1 - 4	1 - 2	1 - 2	1 - 2	1	1 - 3	0 - 2	
PHENOTHIAZINES, ESP. MELLARIL®	0 - 1	0 - 1	0 - 1	0	3	0 - 1	0 - 1	
PHENOTHIAZINES AND TRICYCLICS	1 - 4	0 - 2	0 - 1	0 - 1	2 - 4	1 - 3	0 - 1	
PHENOTHIAZINES AND TRICYCLICS AND MAOI**	1 - 4	1 - 3	1 - 3	0 - 1	2 - 4	1 - 4	0 -1	

0 = no effect
1 = slight effect
2 = mild effect
3 = good effect
4 = maximum effect

*Considered by some authorities to be a risky combination.
**Be careful of anticholinergic toxicity with 3 medications.

not sufficient to account for the clinical picture of depression. It has been suggested that along with the chemical changes one should consider the genetic, constitutional, and cognitive states of the patients and the ability of the individual to cope with the altered physiological and psychomotor state. Central hyperarousal is a prominent characteristic of both depression and manic states. Coppen et al, cited by Schildkraut, report that states of central arousal could result in intraneuronal sodium accumulation with consequent lowering of the resting membrane potential. Alcohol, when consumed in excess over a period of days, causes autonomic hyperactivity, psychomotor agitation, and insomnia, which are believed to be caused by sodium retention in the central nervous system (CNS). Lithium carbonate, which replaces intraneuronal sodium, may stabilize the neuronal membrance and correct the neurophysiological abnormalities. The use of diuretic-antidepressant combinations in alcoholic depressives may prove useful.

Transfer of monoamine neurotransmitters across the pre-synaptic membrane is in part determined by the distribution of electrolytes between the intraneuronal and extraneuronal compartments. An imbalance in the biogenic amines may disturb the diencephalic mechanism of reinforcement with subsequent impaired mood and disturbance in psychomotor activity, appetite, sleep, and libido. According to Hauri, cited by Bielski, there is a delicate balance between biogenic amines, sleep, and depression. Studies by Vogel et al, cited by Bielski, show that rapid eye movement (REM) deprivation either pharmocologically via tricyclic antidepressants, or mechanically via "forced awakening", or both, has been correlated with cures from depressive episodes. A potentially reversible state of hyperarousal occurs which in part may be based on disordered norepinephrine-serotonin function, accumulation of intracellular sodium, or both co-existing with the experience of frustrating environment.

In summary, depression represents the feedback of three sets of variables at chemical, experiential, and behavioral levels with the diencephalon as the center of action. According to Akiskal et al[9] four systems are related: 1) reinforcement (MFB-PBS) system, 2) stress factors (hypothalamo-pituitary systems), 3) arousal (reticular activating system), and 4) psychomotor (pyramidal-extrapyramidal system). All four systems are interconnected in a complex feedback mechanism. Studies by Janowsky al al, cited by Schildkraut, hypothesized that depression may represent a shift in the noradrenergic-cholinergic balance toward the cholinergic side or dominance of the PVS system (cholinergic) without any essential change in the MFB (noradrenergic) system.

PHYSIOCHEMICAL FACTORS IN THE ETIOLOGY OF DEPRESSION

Genetic factors may permit changes in biogenic amines, or CNS intracellular sodium, or both, all of which influence, or contribute to depressive affect. A genetic defect may, for example, affect the presynaptic membrane and cause interference with electrolytes or biogenic amines or, as proposed by Bunney et al, cited by Schildkraut, cause a defect or deficiency in the sodium ion-potassium ion dependent adenosine triphosphatase (ATPase). In the studies of Mendelsòhn and of Frazer, cited by Bàron[10], it was demonstrated that the erythrocyte membrane in bipolar depressives permits higher rates of intra-erythrocyte lithium ion accumulation than in control subjects, suggesting a membrane dysfunction in this disorder. Akiskal et al[9] demonstrated a "structural gene mutation" that codes for a defective lipoprotein-receptor complex on the postsynaptic membrane and further that the sensitivity of this receptor to monoamine neurotransmitter is dependent on thyroid hormone. Prange et al, cited by Schildkraut, demonstrated that the enhancement of tricyclic antidepressant action by thyroid hormone is consistent with this kind of dysfunction. Akiskal et al further state that developmental events may sensitize a patient to depression. "Negative cognitive schematic," early object loss, and lifelong failure in controlling environmental reinforcements may weaken the homeostatic mechanism of the diencephalon. The end result may be vulnerability to disappointment in adult life and rapid development of positive feedback loops. Such stress factors as certain medications (reserpine), certain

infections, or endocrine conditions such as hypothyroidism may bypass genetic and developmental mechanisms and induce physiochemical changes directly. Numerous studies have shown that reserpine induced depressions may require a genetic predisposition. Klein et al, cited by Schildkraut, believe that the "final common pathway", identified as the diencephalic field of action in depression, represents what Klein termed "endogenomorphic" depression, which corresponds to genetically determined depression. Akiskal et al, believe that the more severe depressions involve genetic and interpersonal-developmental events that seem to impart a "special fragility" through the diencephalic mechanism. In summary, in depression the cortex, the limbic system, the reticular activating system, the hypothalamus, and the endocrines interact especially via the pituitary by means of the neurotransmitters (catecholamines and indolamines).

NEURODENDOCRINE DISTURBANCES IN DEPRESSION

Prakas, H et al, cited by Schildkraut, say that evidence supports neuroendocrine dysfunction as a factor in certain types of depression and that neuroendocrine abnormalities along with such clinical features of affective disorder as mood changes, anorexia, libido changes in levels of aggressiveness, sleep pattern, and diurnal changes may reflect a common disturbance in brain biogenic amines. Numerous studies have found that lutenizing hormone (LH) was decreased in menopausal depressed women. Other studies show that prolactin (PRL) is increased in certain endogenous depressions. It has also been found that the hypothalmus inhibits pituitary PRL, which is norepinephrine mediated, and further that there is increased ACTH and cortisol in certain endogenous refractory depressions.

In each of the studies by Prakas et al, Carroll et al, and Sachar et al, cited by Schildkraut, it was shown consistently that plasma cortisol and urinary 17-hydroxy-corticosteroid levels are elevated prior to suicidal behavior. These increases occurred from days to months prior to suicide attempts. It has been found that with recovery from depression 17-hydroxy-corticosteroid excretion falls, while at the same time there is a drop in the serum sodium level.

Frohman et al, cited by Schildkraut, found that ACTH secretion is increased by cholinergic and serotonin pathways and decreased by dopaminergic pathways.

PHARMACOLOGY OF CATECHOLAMINE SYNAPSES

Certain drugs can modify catecholaminergic transmission by influencing the synaptic storage of the catecholamine molecule. 1) Alpha methyl para inhibits tyrosine hydroxylase and suppresses the uptake of tyrosine into the brain with consequent interference and slowing of catecholamine synthesis. 2) Reserpine (Rauwolfia alkaloid) interferes with the synaptic vesicle storage mechanism and depletes the central nervous system (CNS) of catecholamines. 3) Amphetamines act on catecholamine-containing neurons to release dopamine or norepinephrine or to block uptake. 4) Haloperidol and the phenothiazines block dopamine receptors. 5) Guanethidine inhibits the release of catecholamine. 6) Imipramine (Tofranil®) potentiates the effects of intrasynaptic catecholamines by suppressing uptake. 7) MAO inhibitors decrease the intraneuronal destruction of both catecholamines and indolamines. 8) L-dopa administration alters the metabolism of brain dopamine, norepinephrine, and serotonin.

Since catecholaminergic neurons make up only a small fraction of all the neurons in the human brain, the effectiveness of these medications is limited.

CATECHOLAMINE METABOLISM

MHPG is a major metabolite of cerebral norepinephrine and a good indicator of the level of norepinephrine in the brain. MHPG is lower in depressed patients as compared to controls and is quite low in bipolar as compared to unipolar depressives. It is further observed that MHPG changes precede mood changes and therefore may be a good predictor of clinical depression and perhaps a good means of monitoring tricyclic levels in the blood.

Sodium retention is present in depressed patients, while with lessening of the depression the sodium level tends to fall.

FACTORS OF IMPORTANCE CONCERNING CERTAIN MEDICATIONS USED IN TREATMENT OF DEPRESSION

During lithium carbonate administration it is important to check the thyroid, liver, and kidney functions; the serum electrolytes, calcium, and phosphorus; and the cardiac status and electrocardiogram. If lithium carbonate is to be combined with diuretics, it is very important that the sodium level be checked at least semi-weekly and perhaps more often during the hot season. Use of potassium-sparing agents, such as spironolactone or triamterene, are preferable to the thiazide diuretics. It is important to monitor the serum levels of lithium semi-weekly for the first month, weekly for the second month, semi-monthly for the third month, and at least once a month thereafter. If one combines this regime with a careful clinical assessment of the mental status, toxic conditions will be avoided. Since lithium prolongs the neuromuscular blockade of succinylcholine or pancuronium bromide, it delays recovery after electro-convulsive therapy (ECT) or after surgery.

Among the medications that lower blood levels of the tricyclic antidepressants are the barbituates and chlorahydrate. Any substances that lower the pH of the body, such as massive dosage of ascorbic acid or ammonium chloride, will also lower the levels of the tricyclic antidepressants. Smoking has a similar effect. The benzodiazepine, such as Valium,® t3 thyroid substances, and Prolixin® (fluphenazine), neither raise nor lower the tricyclic antidepressant blood levels, but Haldol® (haloperidol) and the neuroleptics do affect the blood levels of tricyclics, as do Chloromycetin® and fenfluramine (Pondimin®).

TREATMENT AND MANAGEMENT OF A DEPRESSED PATIENT

Estrogens (in oral contraceptives) enhance the activity of the tricyclic antidepressants. Vitamins such as B6 (pyridoxine) enhance or increase the activity of the tricyclic antidepressants. Amphetamines have been known to potentiate the effects of the tricyclics and increase the probability of an adrenergic crisis. The quinidine-like effects of the tricyclics in high dosages may precipitate a cardiac arrhythmia. In certain cases physostigmine when admininstered for tricyclic toxicity may cause a cardiac arrhythmia. Guanethidine blocks the action of the tricyclic antidepressants as do many of the antihypertensive medications. Since tricyclic antidepressants do not work well in hypothyroid patients, such patients must be brought to a euthyroid state. On the other hand, side-effects are more apt to occur in hyperthyroid patients who are receiving antidepressive medications. Deaths from the combinations of Romilar® (dextromethorphan) and large doses of tricyclic antidepressants have been reported.

The MAO inhibitors are less predictable than other medications. They are nevertheless very popular in England, while in this country tricyclic antidepressants are more commonly used (See Table 11). Since the MAO inhibitors bind irreversibly to the target enzyme (MAO), the blood levels of the drugs (MAOI) are not related accurately to the chemical response.

The exact mechanism of action of lithium carbonate on the neurons is unknown. It is believed to have an effect on the intraneuronal enzymes, altering the levels of norephinephrine, dopamine, and perhaps serotonin, explaining its effectiveness in both manic and depressive states.

The following medications have varying degrees of effectiveness in the treatment of depression: 1) tricyclic antidepressants, such as amitriptyline (Elavil®), desipramine (Norpramin®), protriptyline (Vivactyl®), nortriptyline (Aventyl®), and doxepin (Sinequan®); 2) MAO inhibitors; 3) combinations of the tricyclic antidepressants and the MAO inhibitors; 4) lithium carbonate; 5) tricyclics in combination with lithium carbonate; 6) anti-anxiety medications such as the major and minor tranquilizers plus the tricyclics; and 7) antipsychotics, such as the phenothiazines, haloperidol thiothixene, molindone, and others, plus the tricyclic antidepressants.

In intractable refractory types of endogenous depression combinations of the antipsychotic drugs, the tricyclic antidepressants, and lithium carbonate may or may not be useful, but the possibility of anticholinergic toxicity, cardiac arrhythmias, and other dangerous side-effects must be

avoided. The antidepressants with usual daily dosage levels, which of course must be individualized in each patient, are listed in Table II.

The most commonly used, and perhaps the most effective preparations for endogenous refractory chemical types of depressions are the tricyclic antidepressants. The following variables affect the clinical response to the tricyclics: 1) the dosage of the medication, 2) the reliability of patients as drug takers, 3) the plasma levels achieved, 4) the duration of treatment, 5) the drug absorption rate from the gastrointestinal tract (medications such as antacids retard or diminish the absorption of most drugs, especially the benzodiazapines, by as much as 50 per cent), 6) the rate of tissue distribution, 7) the rate of metabolism of the drug and detoxification in the liver, 8) the rate of renal excretion, and 9) the "therapeutic window" (the blood level of medication below which there is no response and above which toxicity occurs).

According to Meltzer et al[11] dopamine-beta-hydroxylase (DBH) is identified as the enzyme that catalyzes the conversion of dopamine to norepinephrine. DBH is localized in cell bodies, in axons in the endings of sympathetic nerves, in chromaffin granules of the adrenal medulla, and in the noradrenergic neurons of the brain. Meltzer further emphasizes the potential importance of stress on the level of the enzymes that synthesize monoamine in psychiatric patients, specifically in depressive states. It is therefore important and certainly interesting to determine serum DBH activity in these patients in order to ascertain whether it represents a peripheral measure of sympathetic activity, whether it is stress-responsive, and whether it fluctuates over a long period of time.

The use of tricyclic antidepressants is especially useful in endogenous depressions and beneficial in unipolar depressions where there is no mania or hypomanic history. They are also useful in patients who have vegetative symptoms such as anorexia, weight loss, insomnia, retarded psychomotor activity, and diminished ability to experience pleasure. Unfavorable responses to tricyclic antidepressants are usually found in the reactive depressive neurotic group, although in some of these cases a trial of tricyclics is necessary. Generally speaking negative results follow in the presence of a neurosis or an identifiable precipitant of the depression, hypochondriasis, or hysterical personality disorders. Certain types of recurrent depressives respond less favorably to tricyclic antidepressants, but usually respond better to lithium carbonate. There are certain types of refractory endogenous depressives, who do not respond to tricyclic antidepressants, but do respond to lithium carbonate. Certain pretreatment tests which may predict tricyclic response include MHPG. It has been found in numerous studies that depressed patients with a low MHPG level respond better to imipramine (Tofranil®) than to amitriptyline (Elavil®). Patients with a normal or high MHPG level usually respond better to amitriptyline than to imipramine.

According to Mendels et al, cited by Baron, predicting a response to lithium carbonate is difficult, but seems to be more successful in certain types of refractory atypical endogenous depressions, certain types of bipolar illness, and certain types of endogenous depressions associated with symptom patterns that have physiological variables.

Kupfer et al[12] report that unipolar endogenous depressives who respond to lithium carbonate differ from those who respond to tricyclic antidepressants in 1) lability of mood, 2) a history of multiple hospitalizations, 3) a family history of depressives, and 4) a family history of emotional bankruptcy.[13] Certain types of bipolar depressives who have a history of hypersomnia or a greater tendency to gain weight than is usual in unipolar depression respond better to lithium carbonate. On the other hand, certain types of atypical unipolar depressives respond better to tricyclic antidepressants if they have a family history of unipolar illness, have symptoms of hyposomnia, and experience weight loss rather than weight gain. According to Mendels et al certain endogenous refractory atypical depressions do well on combinations of lithium carbonate and tricyclic antidepressants. It has been his experience that, if the average serum lithium level is kept between 0.8 and 1.4mEq/L, a better therapeutic result is achieved. They further believe that once lithium carbonate is proven

to be effective it should be administered indefinitely. In each of the studies by West and by Dally, both cited by Schildkraut, MAOI have been found to be useful and very therapeutic in atypical endogenous depressives.

Tricyclic antidepressants may be useful in reactional depressions where situational losses lead to depressions.[2] Examples are marital discord with potency and dependency needs; situations where there is loss of self-esteem or loss of status as in such job situations as loss of positions, and demotions; or situations where there is inability or difficulty in handling success.

Raskin et al, cited by Klerman[27] found that imipramine (Tofranil®) was superior to chlorpromazine (Thorazine®) for psychotic depressives. Chlorpromazine and thioridazine (Mellaril®) were found to be useful in the treatment of agitation in these patients. If a patient is agitated and depressed, a combination of thioridazine and tricyclic antidepressants may be very useful. If the patient is not anxious or agitated but has markedly reduced psychomotor activity with deep depression, tricyclic antidepressants are indicated in doses up to 300 to 400 mg in a 24 hour period, with close attention to anticholinergic side-effects and the possible development of cardiac arrhythmias, especially in the elderly. In refractory depressions lithium carbonate and tricyclic antidepressants in combination are useful. In certain types of manic episodes lithium carbonate preceded by phenothiazines can be very helpful.

Mendels et al, cited by Klerman[27] found a single nighttime dose of desipramine to be as effective as daily divided dosages with more reliability of patient participation and fewer dropouts, from therapy. According to these researchers when divided-dose patients who were dropouts were compared with divided dose patients who completed their treatment, the dropouts were found to be older and lighter in weight, and had a lower diastolic blood pressure. It was theorized that the latter patients might have been more sensitive to the cholinergic adverse effects of the drug, which emphasizes the importance of reduced dosage in lighter weight and older patients. There was no reduction in insomnia in patients on a divided dose versus those who took their medication (such as desipramine) at bedtime. This caused Mendels to conclude that the stimulant effect of desipramine has an apparently negligible effect on insomnia.

Post et al[14] in their studies on the effects of sleep on depressed patients, found that the amine metabolites (5HIAA and HVA) were not substantially affected by sleep deprivation, but that the MHPG level was significantly changed as was the clinical picture of the depression. They concluded that sleep deprivation produces short-term improvement in a selected group of severely depressed patients, which apparently has to do with shifting of brain catecholamine levels, especially norepinephrine.

SUMMARY

Depression is a complex disorder involving the total person. The management of endogenous depression is facilitated by the judicious use of antidepressant drugs. Some guidelines in the medical management of depression are:

1. Control symptoms rapidly and safely and thus reduce hospital stay and personal discomfort.
2. Initiate a single dose regime, if possible, for the convenience of the patient and to increase the reliability of compliance.
3. Accelerate the dosage rapidly if necessary to produce safe, satisfactory results.
4. A low maintenance dosage is desirable to avoid untoward sedation, overstimulation, and anticholinergic and cardiovascular side-effects.
5. Good clinical indications and the support of consultation are necessary.
6. Avoid pre-toxic and toxic side-effects.
7. Avoid lithium toxicity, intoxication, or poisoning, especially if lithium carbonate is used in conjunction with diuretic-containing antihypertensives.
8. The cooperation of a close relative or friend to help monitor or at least give adequate information on the patient's reliability of medication taking is useful.

Psychotherapy and medication should be combined with a view to prevention of further depressions. In pursuit of this goal the following measures are relevant: identification of the causes of depression where possible, alteration of maladaptive

styles, exploration for origins of the depression, modification of personality style where indicated, and reappraisal of life-style. Adequate rest, recreation and whatever else makes sense should be part of the therapeutic regime.

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Pharmacology Treatment In Drug Abuse

Management Of Drug-Abuse Patients Requires An Understanding Of The Pharmacology Of The Drugs

By Demmie G. Mayfield, M.D.
Robert G. M. Johnston, M.D., M.P.H.

Though all drugs are subject to misuse and can lead to deleterious effects, the term "drug abuse" is reserved for the self-administration of drugs which primarily affect the central nervous system. Drug abuse is the result of the interaction of a variety of cultural, social, psychodynamic, and behavioral factors, and the part each factor plays differs from individual to individual. Common to all drug abuse states are certain pharmacological effects which play a major role in the inception, perpetuation and withdrawal from the patterns of excessive use of drugs of dependence.

Management of drug-abuse patients requires an understanding of the pharmacology of the drugs of abuse and similar drugs used to treat them. Since pharmacological techniques are such an important part of the management of patients with alcohol, CNS depressant, and opiate drug abuse problems, we feel that a review focussing on this aspect of treatment is valuable.

Because the same basic pharmacological principles apply to each of these groups, it is useful to review them together.

This review is not meant to be a guide to the comprehensive management of the drug abusing patient. Since our focus is on the pharmacological aspects we have omitted most of the medical and psychosocial techniques which are also essential to the proper management of these problems.

ALCOHOL

Acute Intoxication. The concomitants of acute intoxication are well known and easily recognized. They include thick, slurred speech, nystagmus, ataxic gait, and also psychological changes involving a general sluggishness of thought as shown by slowed speech, poor concentration and memory, faulty judgment, and narrowed range of attention. There may be emotional lability, the subject laughing or crying easily, irritability, hostility, paranoia, or even suicidal tendencies. In severe poisoning the patient will become comatose with depressed respiration.

When treating the severely intoxicated patient, it must always be remembered that the patient may have consumed other central

DEMMIE G. MAYFIELD, M.D., *Chief, Psychiatry Service, Providence VA Hospital; Professor of Psychiatry, Brown University, Division of Biology and Medicine.*
ROBERT G. M. JOHNSTON, M.D., M.P.H., *Staff Psychiatrist, Providence VA Hospital; Instructor in Psychiatry, Brown University, Division of Biology and Medicine.*

nervous system depressants in addition to alcohol and that these will make the clinical course much less predictable. In severe cases of poisoning it may be necessary to intubate the patient and admit to an Intensive Care Unit. The only way actively to reverse the poisoning is by hemodialysis. The use of fructose is not clinically practical.

More commonly the physician is faced with a conscious but disruptive patient. There is a great temptation to try and sedate the patient with psychopharmacological agents. In general, this is to be discouraged. Sedative hypnotics (such as the barbiturates, chloral hydrate, and the benzodiazepines) may accentuate the disruptive behavior and may rapidly precipitate respiratory arrest. Phenothiazines may produce unpredictable cardiovascular effects and precipitate severe coma. If the patient is displaying such destructive behavior that there seems to be no alternative to pharmacological intervention, then probably the safest drug to use is Haldol® (haloperidol) 2 - 3 mg intramuscularly (IM). The patient should, of course, be observed closely and at regular intervals to guard against any change in vital signs. The dose may be repeated at 30 minute intervals if the behavior demands it.

Alcohol Withdrawal: The withdrawal syndrome is a manifestation of the rebound neuronal hyperactivity and hyperexcitability resulting from the abrupt reduction of a level of alcohol to which the central nervous system had adapted. The simple withdrawal syndrome from alcohol varies from tremulousness, insomnia, headache, sweating, nausea, and increased pulse rate and blood pressure in mild cases to muscle twitching, cramps, vomiting or dry heaves, diarrhea, and agitation in more severe cases. In the most severe cases the patient may develop the full-blown picture of delirium tremens (DT), characterized by extreme agitation, hallucinations, and delusions possibly leading to hyperpyrexia and death. The patient may also suffer from convulsions.

DT's most commonly appears two to three days after the patient has stopped drinking. However, it may occur while the patient is still intoxicated and up to three weeks after stopping drinking. In response to his terrifying misperceptions the patient may suddenly act in a way that is dangerous to himself or others. Seizures may occur at any time up to ten days after stopping drinking and may progress into status epilepticus.

The aim of treatment is to provide a gradual withdrawal from the depressant effects of alcohol. This can be achieved by a drug that has a close cross-tolerance with alcohol and a long and slowly dissipated depressant action. Librium® (chlordiazepoxide) has these properties. It also possesses substantial anticonvulsant properties and is safe and relatively free of objectional side-effects.

The aim of therapy is to achieve stabilization (suppression of withdrawal symptoms) with Librium® and then progressively withdraw the drug. Librium® should be given by mouth unless uncooperativeness or a gastrointestinal disturbance necessitate the use of intravenous (IV) medication. Intramuscular Librium® is not recommended since the rate of absorption is unpredictable.[3] Curiously administration of Librium® does not offer a more rapid onset of action than the oral route.

The following is a guide for the use of Librium® in the withdrawal from alcohol:

1. If the patient shows obvious signs of intoxication, wait for these to clear before starting drug treatment.

2. If the possibility of development of a withdrawal syndrome is considered but withdrawal signs are not present, wait until withdrawal signs appear before starting treatment.

3. If withdrawal signs are not present but a withdrawal syndrome is considered highly probable, start Librium® at 25 mg every 6 hours. If withdrawal signs do not appear in 24 hours, reduce and discontinue Librium® over two days. If withdrawal signs appear, increase Librium® to 50 mg every 6 hours, and, after stabilization for 24 hours, reduce and discontinue Librium® over 2 to 4 days.

4. If withdrawal signs are present, start Librium® at 40 mg every 6 hours and continue or increase dosage until stabilization. After the patient is stabilized for 24 to 36 hours, reduce and discontinue Librium® over 2 to 4 days.

5. If the patient is manifesting delirium tremens, give Librium® 50-200 mg every 6 hours to achieve sedation sufficient to induce sleep, but also allow patient to be awakened. Maintain dosage until delirium has cleared

and then reduce and discontinue Librium® over 5-7 days, the rate of reduction depending upon stabilizing dose and reappearance of withdrawal signs. A satisfactory schedule of reduction of Librium® is the elimination of one dose and halving each dose on alternate days: eg, 100mg every 6 hours, 100 mg every 8 hours, 50 mg every 8 hours, 50 mg every 12 hours, 25 mg every 12 hours, 25 mg at hour of sleep then discontinue. Unlike the simple withdrawal syndrome, delirium tremens may not be easily reversible and may last up to six days even with optimal therapy.

Experience may allow for variations in the above regime. However, it is suggested that this regime should be adhered to until experience has been gained.

The adequate use of Librium® should prevent the occurrence of seizures during withdrawal[4]. Prior to stabilization on Librium® seizures may occur. If a solitary seizure does occur, this does not require special treatment. If status epilepticus develops, it should be controlled with IV Valium® (diazepam) 5-10 mg IV at the rate of 5 mg per minute. This may be repeated if necessary at 10 -15 minute intervals to a total dose of 30 mg. Dilantin® (diphenylhydantoin) is of limited effectiveness in the prevention or treatment of withdrawal seizures.[5] However, Dilantin® is reported to have reduced the tremulousness of the withdrawal syndrome.

Long-Term Treatment. With the exception of Antabuse® (disulfiram) pharmacological agents have only an indirect role to play in maintaining the long-term abstinence of the alcoholic. It must be remembered that the alcoholic has already demonstrated a propensity for addiction, and care must be taken that he is not readdicted to tranquilizers. The prescription of tranquilizers tends to reinforce the attempt to seek pharmacological solutions to nonpharmacological problems.

Although the immediate withdrawal period lasts only about one week, a number of patients continue to complain about sleep difficulty or "shakiness". In this minority of patients small quantities of benzodiazepines may be cautiously prescribed for a strictly limited period (eg, Librium® 10 mg, three times daily as necessary for one week).

The small group of patients who show clear evidence of other psychiatric disorders should be treated with the appropriate pharmacotherapy. The mere presence of excessive drinking is not indicative of another psychiatric syndrome and does not constitute an indication for the use of psychotropic agents.

Antabuse® does have a specific role in the maintenance treatment of those well-motivated patients who nonetheless have failed to remain abstinent, particularly if their failures have been of an impulsive nature. Antabuse® interferes with the action of a number of enzyme systems including those which breakdown acetaldehyde, the first metabolite of alcohol. When alcohol is consumed, the combined effect of these enzyme disruptions causes a serious reaction involving flushing of face and neck, tachycardia and then headache, dyspnea, dizziness, chest pain, nausea, and vomiting. The reaction begins about 15 minutes after drinking alcohol and its unpleasantness discourages further alcohol intake. Given the severity of the reaction the patient should be kept under close medical supervision. The most important medical contraindication to the use of Antabuse® is significant cardiovascular disease. If Antabuse® is prescribed the patient should have abstained for at least 24 hours. A loading dose of Antabuse,®500 mg daily, is given for 5 days during which time the drug may not be effective. The patient is then maintained on a daily dose of between 125 - 500 mg. The drug remains effective 24 - 48 hours after the final dose. There is no evidence that a demonstration of the alcohol/Antabuse® reaction is more effective in promoting patient compliance than is a graphic description of the reaction.

CNS DEPRESSANTS

This is a large and growing group of drugs prescribed for inducing sleep, producing sedation, or reducing anxiety. These drugs are all included in the FDA Controlled Substances Act Schedule II, III, and IV[4] with their potency as habituating and addicting drugs decreasing as one descends the schedule. Schedule II includes short-acting barbiturates prescribed as hypnotics and some non-barbiturate hypnotics (eg, Quaalude® (methaqualone). In Schedule III

are most of the other sleeping pills, including the newer non-barbiturate hypnotics (eg, Doriden® (glutethimide). Schedule IV includes the benzodiazepines (Valium,® Librium,® Dalmane® (flurazepam), Equanil® (meprobamate), long-acting barbiturates (phenobarbital, mephobarbital), and chloral hydrate.

These drugs lower the level of arousal and thus produce sedation and eventually sleep. They produce intoxication resembling that seen with alcohol. Similar to alcohol, they have appeal as recreational drugs, and certain individuals seek out the intoxicating experience and become habituated to their use. The central nervous system, will, if exposed to any of these drugs on a continous basis, develop tolerance to the effects, so that the patient will require an increase in dose to obtain the same effect. This induced tolerance is also manifest as dependence so that any decrease in the accustomed dose brings on symptoms which are the opposite of the drug effect, ie, the symptoms the drug was prescribed for originally, plus a number of additional ones. If the build-up in dosage has been large and the decrease abrupt enough, this will be manifest in the typical withdrawal syndrome as described for alcohol. The withdrawal syndrome emerging after sedative-hypnotic dependence differs from that seen with alcohol only in that it is apt to be more intense and more life-threatening.

Certain drugs prescribed as hypnotics, sedatives, or tranquilizers are not included in the controlled substances schedule and do not share the habituating-addicting properties of those which are. Thus, excluded are the phenothiazines, sedative-antihistaminics (Atarax® [hydoxizine], Phenergan® [promethazine], Benadryl® [diphendydramine], and sedative anti-depressants). It is for this reason that these drugs are often preferred for use in the treatment of insomnia and anxiety.

Acute Intoxication. A patient who presents a behavioral management problem in association with intoxication with sedative-hypnotics presents the same problem as those encountered in the alcohol intoxicated patient, plus the greater likelihood that he may have also taken a variety of other drugs, such as hallucinogens and stimulants making pharmacological treatment even more of a gamble.

Treatment of overdose with central nervous system (CNS) depressants is not primarily a pharmacological matter. The patient should be treated with appropriate medical supportive measures as are available in an Intensive Care Unit. Analeptic drugs to reverse coma are of little benefit and often complicate the picture.

Pharmacological measures are of most value in promoting more rapid elimination of the drug. For long-acting barbiturates (phenobarbital) a great deal can be accomplished by alkalinizing the urine and promoting diuresis. To alkalinize the urine in a phenobarbital overdosed patient, give sodium bicarbonate 7.5 per cent, 50 ml ampule intravenously. Alkalinization can be further increased by also giving Diamox® (acetacolamide) 250 mg IV every six hours. Diuresis can be promoted by an osmotic diuretic such as Mannitol® 25 per cent, 100-150 mg IV or by Lasix® (furosemide) 40 mg IV every 4 to 6 hours. The excretion of phenobarbital can be increased by as much as 300 per cent by these measures.

Phenobarbital can also be eliminated rapidly by peritoneal dialysis or hemodialysis. Short-acting barbiturate levels are not effected by alteration in renal excretion leaving hemodialysis as the only method of rapidly removing the drug.

Withdrawal. To avoid the emergence of a serious withdrawal syndrome, the dosage of a drug producing dependence must be reduced slowly. If the drug and dosage is known, then the patient should be withdrawn by decreasing the dosage at the rate of 10 per cent a day, ie Seconal® (secobarbital) dependent patients should be withdrawn by administering Seconal® in reducing doses, Doriden® by Doriden® withdrawal, and so on.

If the patient has been taking a mixture of drugs or an unknown drug, withdrawal should be carried out using a single standard drug with wide cross tolerance, eg, Nembutal® (pentobarbital). Since a reliable account of the amount of abuse is rarely available and often the pattern of use is ingestion of a variety of "downers", withdrawal is usually undertaken after a diagnostic test.[7]

If a patient presents with no evidence of a

withdrawal syndrome but there is reason to suspect that he has been ingesting large amounts of CNS depressants and may be a candidate for a withdrawal syndrome if deprived of his intake, the following diagnostic test should be performed. Give pentobarbital 200 mg by mouth on an empty stomach (100 mg may be used for elderly or debilitated patients). Have the patient recline for one hour, then evaluate for signs of intoxication (positive Romberg sign, gait ataxia, finger to nose incoordination, nystagmus, slurred speech, drowsiness). The appearance of intoxication is presumptive evidence that drug tolerance is not present and that there is little reason to anticipate a withdrawal syndrome if the patient is not treated. If there is some evidence of intoxication and the suspicion of drug abuse is great enough, the test can be extended by following the initial test dose with pentobarbital 100 mg. every six hours for 24 hours. If withdrawal signs do not appear (or intoxication increases) this may be interpreted as definite evidence that tolerance is not present.

If the patient presents with signs of intoxication from CNS depressants, one should suspect that he is a chronic abuser who has developed dependence, but has exceeded his tolerance dose. Wait for the intoxication to clear completely, then promptly pursue the definitive test procedure, since there is very strong evidence that the patient is a drug abuser.

It is important to keep in mind that this pentobarbital test is valid only when applied to a patient who is asymptomatic. The test is not useful for making the distinction between drug withdrawal and disordered behavior due to some other cause (mania, schizophrenia, organic brain syndrome). A patient who is hyperactive due to another psychiatric syndrome may also be relatively refractory to the sedative effects of barbiturates. The administration of barbiturates in these cases is apt to be ineffective or may even increase the disturbed behavior. The administration of repeated doses in an attempt to control disordered behavior is apt to result in precipitous overdose.

If a valid test procedure indicates induced tolerance to CNS depressants, withdrawal treatment should be instituted. The patient should be hospitalized throughout the course of withdrawal. The aim of treatment is to achieve stabilization (suppression of withdrawal signs) and then to start a slow reduction of dosage.

Give pentobarbital by mouth (or intramuscularly if necessary) 200 - 400 mg every 6 hours to produce mild intoxication. When the stabilization dose is established, continue for two days and then start a slow withdrawal. As a general rule pentobarbital is reduced daily by no more than 10 per cent of the established daily intake necessary to produce a mild degree of intoxication. Pentobarbital is reduced by no more than 100 mg a day. If more than the mildest minor withdrawal signs appear, the reduction schedule is suspended until these signs subside, after which the schedule is resumed or continued at 50 mg a day. If delirium is present, the patient is sedated with pentobarbital at 4 to 6 hour intervals in whatever amounts are necessary to suppress agitation, insomnia and hyperpyrexia. This condition is not easily reversible, and vigorous treatment may have to be continued for 3 - 5 days.

Pentobarbital is commonly used for general CNS depressant withdrawal because it has close cross tolerance to a wide range of abused CNS depressant drugs, has onset and duration of action which permit fine control of drug level, and because experience has been gained with its use for this purpose. Phenobarbital has properties which would appear to make it preferable. It offers more anticonvulsant action and has the advantage of a long-acting slowly-dissipated depressant effect. Phenobarbital, however, has not been used for withdrawal commonly enough to establish the standardized guidelines which are available for pentobarbital.

Long Term Management. Pharmacological treatment is not part of the long-term management of CNS depressant drug abusers. The principle aim is to avoid prescribing drugs with habituation and addiction potential and to discourage drug-seeking behavior. When sedative drugs seem necessary, it is best to prescribe a drug in the phenothiazine or sedative antihistaminic class, rather than any of the drugs in FDA Schedule II, III or IV.

NARCOTICS

This group includes the natural alkaloids of opium (morphine, codeine, pantopium), synthetic derivatives of morphine (heroin, Dilaudid® [dihydromorphone], Numorphan® [oxymorphone]), and the synthetic opiates with morphine-like action (Demerol® [meperidine], methadone, Levo-Dromoran® [levorphanol]). They are classified under FDA Schedule II.

The most prominent physiological effects of opiates are lethargy, drowsiness, somnolence, constipation, and pupillary constriction.

Overdose. Overdose presents as coma, depressed respiration, then cardiovascular collapse, and frequently pulmonary edema. Particularly characteristic of opiate poisoning is the presence of very slow, shallow respiration. A respiratory rate of 1 to 4/minute together with adequate blood pressure is practically pathognomonic of opiate poisoning. A comatose patient who shows prominent respiratory depression has opiate poisoning until proven otherwise, and a patient who does not have obviously decreased respiratory rate is in coma for some other reason. Pupils are frequently constricted; but this is not a reliable sign, since the pupils will dilate markedly as anoxia becomes severe and since constricted pupils may be seen in severe barbiturate intoxication as well.

Opiate antagonist drugs are available which are specific enough to be diagnostic and effective enough to completely reverse opiate poisoning. Narcan® (naloxone) is the drug of choice for treatment of opiate overdose. It is preferable to Nalline® (nalorphine) and Lorphan® (levallorphan) because it has no agonistic effects and, therefore, does not complicate the picture if given to a patient who has a condition other than opiate overdose.

Management of the opiate overdose patient is relatively easy. Any patient who reaches medical attention with a heart beat should be saved. In these patients an airway should be secured, ventilation established, and a needle placed in a vein. Narcan®, 1ml, should be given intravenously. The response is typically a dramatic reversal of coma 1 to 2 minutes following injection. The response may be even more dramatic with considerable behavioral disturbance if the patient has been physiologically dependent on opiates and undergoes a rapid withdrawal. If a withdrawal reaction is precipitated, this cannot be reversed as long as the antagonist acts. In any event, the effect of naloxone will begin to fade at about 30 minutes and should disappear completely in 45 minutes to 1 hour. Since most opiates have a longer duration of action (heroin 3 hours), the naloxone should be repeated until sedation no longer reappears. In case of long acting opiate-like drugs such as methadone, the patient will require careful monitoring and repeated injection over 12 to 36 hours.

If the patient does not respond, a second injection should be given in 15 minutes. If the patient does not respond to the second injection and needle placement has been assured, this can be interpreted as evidence that opiate poisoning is not the cause of the coma.

Withdrawal. In general, chronic opiate intoxication is associated with a hypometabolic state, drying of secretions, and slowing of gut function. The withdrawal state is associated with the opposite: hypermetabolism, outpouring of secretions, and hypermotility. The opiate-dependent individual will experience a desire for a dose 4 to 6 hours after the last dose of heroin. In 8 to 16 hours he will experience restlessness and anxiety (purposive withdrawal symptoms). At 12 hours he will begin to manifest lacrimation, rhinorrhea, sweating, yawning, elevated blood pressure and temperature, vomiting, and diarrhea. At this stage (non-purposive withdrawal signs), an objective diagnosis can be made. At 24 hours, the above non-purposive signs are intensified and pupil dilation, pilo-erection (goose flesh), and muscle twitching occur; at 36 to 48 hours the above are more intense and muscle cramps appear.

If methadone has been the drug of abuse, withdrawal signs appear later, are less intense, and last longer. The natural course of untreated withdrawal is as follows: for Demerol® onset at 3 hours, peak at 8 to 12 hours, and recovery in 4 to 5 days; for morphine or heroin onset at 8 hours, peak at 36 to 72 hours, and recovery in 7 to 10 days; for methadone onset at 12 hours, peak at 6 days and recovery in 10 to 14 days.

Methadone is the drug of choice for opiate withdrawal because of its long duration of action and gradual dissipation. The aim of therapy is to achieve stabilization (suppression of non-purposive withdrawal signs) on methadone and gradually reduce and discontinue methadone. The procedure for withdrawal on methadone is:

1. Wait for the appearance of clear-cut evidence of non-purposive withdrawal signs. Except for methadone addiction (withdrawal signs after 36 to 72 hours), the absence of withdrawal signs within 36 hours indicates the absence of significant physical dependence.

2. If the patient is already manifesting a withdrawal syndrome, start methadone by mouth or subcutaneously 5 mg three times daily for mild withdrawal signs; 10 mg three times daily for moderate signs; or 15 to 20 mg three times daily for severe signs. Adjust dosage upward as necessary to achieve stabilization.

3. If the patient develops withdrawal signs while under observation, start methadone at 5 mg and adjust dose upward as necessary to achieve stabilization on a three times daily schedule as rapidly as possible.

4. When stabilization has been maintained for 24 hours, reduce dosage daily by 20 per cent of the preceding daily dose giving methadone three times daily or twice daily by mouth. When daily dose reaches 20 mg, the drug can be reduced by 50 percent a day. Reduction schedule should be accomplished over 9 to 10 days.

For patients with dependence on both CNS depressants and opiates it is generally simpler to first withdraw the patient from the CNS depressant before initiating the withdrawal from opiates. To accomplish this, stabilize the patient on pentobarbital and methadone and then pursue the withdrawal schedule previously described for pentobarbital while maintaining the patient on methadone. After the pentobarbital withdrawal is completed, proceed with methadone withdrawal. Simultaneous withdrawal of both types at suitable rates is not contraindicated, but requires much experience.

Long Term Management. Two pharmacological methods, opiate maintenance and opiate antagonists, are available for the long-term rehabilitative treatment of narcotic addicts.

Methadone maintenance, introduced by Dole and Nyswander [8] over 10 years ago, was the first addiction treatment method to have any success and is the principle mode of treatment for heroin addicts in the United States today. The rationale for this approach was derived from Wikler's notion that opiate addicts have a particular need for the drive reduction action of opiates, possibly explaining their choice of the drug in the first place, and probably explaining their inability to relinquish the drug[9]. In the Dole-Nyswander modification of this theory it was postulated that chronic opiate use induces at the cellular level a physiological change that is relatively permanent, not reversed on withdrawal of these agents, and thus promoting return to these drugs after months or even years of abstinence.

Because previous efforts to help addicts give up drugs and the associated life style had met with almost 100 per cent failure, Dole and Nyswander proposed placing addicts on a pharmacologically sound "fix" in place of the socially and physiologically destructive pattern of illicit IV heroin use. Individuals who have a two-year history of opiate use and evidence of physical dependence are eligible for admission to a specialized methadone maintenance program. The patient is placed on a daily dose of oral methadone which is adjusted to a level which is low enough to avoid sedation, constipation, and other symptoms, and high enough to eliminate craving for street opiates. The dose varies from 25 mg to 120 mg methadone a day. In practice two dosage levels predominate, a "low" maintenance regimen of 40 to 50 mg and a "high" dosage regimen of 80 to 100 mg. Low dosage maintenance is designed to provide a level which reduces the drive to seek out other opiates. High dosage maintenance, in addition, tends to "block" or mitigate the effects of additional doses of opiates since it is difficult for the addict to "shoot through" such a high basal drug level and obtain euphoria from heroin.

The patient comes to the methadone clinic for a dose each 24 hours and drinks it in orange juice under the observation of the

dispenser. These programs also include urine checks for illicit drugs and a variety of psychosocial treatment activities.

Recently there has been an improvement in maintenance treatment with the introduction of a longer acting opiate levo-alpha-acetylmethadol (LAAM). Still in the investigational category, this drug has been used in a number of specially designated maintenance programs. LAAM has a duration of action of 72 hours as compared with 24 hours for methadone, thus eliminating the need for daily visits to a clinic[10]. LAAM is taken orally and produces even less of a sensation of drug effect on administration than does methadone.

Though the effect of methadone used in maintenance has been described as "blocking", this is not strictly accurate from a pharmacological standpoint. There are, however, drugs which are true opiate blockers. Certain drugs with structures similar to opiates appear to occupy opiate receptor sites, but do not activate them. While occupying these receptor sites, they interfere with access of opiates to them and prevent the pharmacological effect usually obtained with these drugs. Some antagonists (eg, naloxone) appear to displace opiates from receptors, immediately nullifying the pharmacological effects manifest by a dose previously taken. Naloxone will act as an antidote to a recent dose of opiates, will completely block the effects of a subsequent opiate dose of any amount, and will induce an immediate withdrawal syndrome in an individual with dependence on opiates.

Cyclazocine, a drug developed approximately 10 years ago, while not effective as an antidote, will block the effects of subsequently administered opiates when it is present at sufficient maintenance levels[11]. When such a maintenance dose is administered daily, the addict is prevented from obtaining an effect from self-administered opiates. Cyclazocine has been used in clinics treating opiate addicts and has had an encouraging measure of success, though it has not been as acceptable to addicts as methadone maintenance.

The use of antagonists is based primarily on Wikler's theory of conditioning as a factor in relapse[12]. From animal experimental data and clinical observation it is known that the process of addiction is accompanied by the association of innumerable stimuli with drug state and drug taking behavior. The addict associates people, places, and events with drug-induced euphoria, drug withdrawal, and craving. This generalizes and persists to the extent that even after long drug-free periods the addict experiences craving and even withdrawal symptoms when exposed to places and situations which were previously associated with these sensations. This set of conditioned associations strongly predisposes to a return to drug taking. While preventing access to a drug-effect antagonist, maintenance also offers the possibility of extinguishing these conditioned responses. In contrast to methadone maintenance, the antagonist maintained addict may be encouraged to immerse himself in his usual drug-taking activities to promote the process of extinction.

The principle drawback of cyclazocine was that it also had a number of unpleasant agonistic effects. It has been replaced by naltrexone, a compound similar to naloxone, but with a much longer duration of action[13]. Naltrexone, when taken by mouth in doses of 40 to 200 mg, will completely block the effects of any opiate or opiate-like drug for 24 to 72 hours without producing any effects itself. Naltrexone is still classified as an experimental drug, but has been used in specially designated clinics for several years. After withdrawal of opiates, the patient receives naltrexone orally on a two or three times a week schedule during which time he is unable to experience any effect from opiates.

Eventual withdrawal from methadone and progression to a drug-free state was not necessarily part of the Dole-Nyswander plan. They considered the indefinite use of methadone as a satisfactory alternative to street drug use. Perpetual maintenance on methadone may be the best alternative for a number of addicts, and it is indeed a much more satisfactory existence than the street addict life-style. Since prescribed addiction is not an attractive therapeutic goal for most therapists and most health planners, eventual progression to a drug-free state is the expectation for the majority of addicts. This has proved possible for a number of addicts,

though it is too early to make predictions about percentages.

Without the transition from street drug use to methadone maintenance the chances of rehabilitation would be practically nil. The heroin addict exists in several interlocking vicious circles. He lives to a 3 to 6 hour pharmacological-physiological cycle consisting of IV injection accompanied by a rush of euphoria, followed by an hour or so of drowsiness and lethargy ("on the nod"), two hours or so of minimal drug effect, and then an uncomfortable feeling of need for another dose. This physiological roller coaster goes on day after day, interspersed with occasional overdoses and periods of being sick when the drug supply is interrupted. There is an overriding preoccupation with the drug market and associated activities and continual concern with legal consequences. When not "on the nod", the addict is apt to be scurrying around finding a supply (connection) and securing the resources (hustling) to buy the drugs.

This life-style precludes any sort of gainful employment aside from stealing, dealing, or prostitution, and eliminates any meaningful family or social life. In order to get a job or establish family and social stability the addict has to be off drugs, but to relinquish drugs the addict has to have occupational-social stabilizing influences. This bootstrap proposition has in the past proven to be such a formidable obstacle that addicts were almost never rehabilitated.

Methadone maintenance offers the possibility of making the transition one step at a time. The addict can be stabilized on methadone which allows him to achieve occupational and social stability before he attempts to relinquish drugs. When he has developed regular work habits, reestablished family and social relations in the straight world, and moved away from street associates, he then has some chance of eliminating drugs. In addition to the pharmacological stabilization, the methadone maintenance clinic offers an important element of order to the addict's previously chaotic routine.

It has been suggested that perhaps the most typical progression to recovery in the future will be transition from street drugs to methadone or LAAM maintenance, to antagonist maintenance, then drug-free non-addict adjustment.

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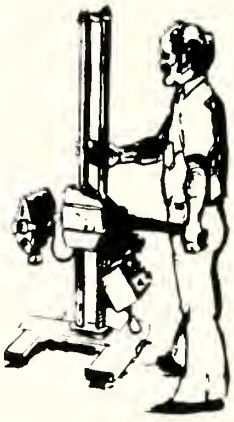

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Group Psychotherapy In Rhode Island

Group Psychotherapy Supplementary To Individual Therapy Offers Benefits To The Patient And Satisfaction To The Therapist

By Louis V. Sorrentino, M.D.

This report is intended to convey something of the fascination of the problems, the benefits to the patients, and the myriad satisfactions to the therapist of group therapy. Combined group and individual therapy is worthy of consideration for appropriate patients.

In the summer of 1958 I worked on the inpatient service at Butler Hospital. That fall, I continued working a few hours a week in the outpatient department. There, I started a group with individuals with whom I had worked as inpatients as a nucleus. The group included some members who were still inpatients, some in the day care center, and others who were outpatients. This group continued for about four years, new patients being added as the older patients left. The group was suddenly terminated by an administrative decision to close the outpatient department. Several of the members asked to continue as private patients, and thus began my first private group. In the years since then I have generally had three to five private groups in my practice at any one time. The original group, with changes in membership, has met continuously for about eighteen years.

Presented at the Butler Hospital Staff Association, Providence, R.I., July 13,1977

LOUIS V. SORRENTINO, M.D., *practices Psychiatry in Providence, Rhode Island.*

During my residency at Boston State Hospital I had had experience with inpatient groups (mostly psychotics), and then with outpatient groups (mostly neurotics). Through this experience I came to see the real benefits of group therapy. When I came to Rhode Island to practice, I was suprised that group therapy was not more readily available here,especially in the private sector, and led by psychiatrists. Two problems seemed obvious: first, finding about eight patients suitable for group therapy, who were available at the same time, and, second, matters of confidentiality in this tiny state.

At first it seemed difficult to find enough private patients for a full group. In those days many Rhode Islanders were still visiting psychiatrists, and also group psychotherapy had not been popularized in the media. Of necessity, I started with a nucleus of three to four patients and found that it worked. This core became an intimate and effective working group. As new members arrived, they would be welcomed and taken in warmly. However, as the group grew larger, new members were now not so welcome. First, there would be the wish to get rid of the new "sibling", which was followed by feelings of guilt, and finally by a wish to help the new member to gain acceptance.

Confidentiality — how does one deal with confidentiality in a small state? In Rhode Island most people know someone who knows almost everyone—or at least his cousin! In a

large metropolitan city, not only are the numbers larger, but the population tends to be more transient. Reading and listening to papers on how to select groups did not seem to be very helpful in this particular area. Gradually, though, workable ways of selecting new members evolved.

Once I announce that a new member will be coming to the group, the members became anxious about their own anonymity. They will ask: "Do I know the new member?" "Is it my neighbor?" "Where does she live?" "What does he do?" I tell them the first name and present a general description of him/her. As I answer their questions, even more will follow, even to: "Is it John Smith?" Some patients would live in dread for the whole week, only to be greatly relieved when they discovered that they did not know the new member. That usually brought out resentment toward the new member and toward me for their anxious week. Why hadn't I told them **who** the new member was? If they should ask specifically, "Is it John Smith?" I tell them it is not. It has never happened that the group has identified a member prior to joining. However, if that should happen, I would explore the matter with them and ask how they would feel if it were Tom Jones who was coming.

RULES OF THE GROUP

I have a general procedure I usually follow with the patients who I think would benefit from joining a group. Most patients are seen at from five to ten visits. Group therapy initially is mentioned only in passing. At about the third visit I may suggest a group again and ask them to think about it as a way of getting a great deal more therapy. I ask them to read a pamphlet (AGPA* Standards and Ethics, Comm., Eds) and suggest that each spouse read it also, so that he/she does not feel left out. I do **not** suggest group therapy as second choice or cheaper therapy. Once they are interested, I tell them about groups in general, or, as Yalom puts it, "demystify group". Then I present several rules of the group:

Confidentiality. They may tell others about the nature of group therapy but may not divulge names or personal details. If, for example, a group member meets another member outside of the group meeting and introductions are necessary, this can be handled on a first name basis, but the group must decide about this.

Commitment. Once a patient joins, he/she must make every effort to attend the group regularly. This is a weekly appointment which must have priority over virtually all others. The monthly charges are made whether the patient is present or not. At the beginning I try to get the patient to agree to stay with the group for several months and, after that, to give the group at least a month's notice before terminating.

Openness. Members are asked to be completely open with the group. If they find themselves unable to be open, then that itself should be discussed.

Extra-group Contacts with Group Members. I acknowledge that this may present problems as they will come to know each other so well and in a way that is different from other relationships. If members meet by plan or by chance, then this must be shared with the rest of the group. This prevents two from knowing more about each other than the rest, avoids the development of cliques, and reduces acting-out.

After a patient has decided to join a group I try to work out (1) his circle of acquaintances, where he works, lives and socializes; (2) his time schedule, and (3) his suitability for a specific group. Once committed, I tell him about a specific group and its members. I give him a list of last names, throwing in some extras besides those of the group members, asking, "Do you know anyone in your close circle with these names?", and if so, "whom?" If he does know a member, I take it up with the older member, obtaining permission first from the prospective member, or start to work on including him in another group. At his first meeting I make certain to ask new members and old if they have known each other so that any connections may be brought out in the open right away.

Dorothy and Frances are a good example of the sorts of problems confidentiality may present within the group. Dorothy is a compulsive and phobic elementary school teacher. Her home is in Warwick, She

*American Group Psychotherapy Association

developed strong hostile feelings towards an obese, passive member, Frances. Dorothy called her a "slob," told of her dreams of murdering her and of her dread of arriving at group sessions early to find herself alone with Frances in the group room. On Election Day Frances was working as a volunteer at the polls where Dorothy came to vote. Thus she learned Dorothy's last name and address. Both of them became very anxious. Dorothy threatened Frances with her murderous wishes, only to learn a little later that the next semester she was to have Frances's son in her class at school. Now she described fantasies of harming the son. Frances threatened to go to the principal, reveal Dorothy's being in therapy, and to demand transfer of her son to another room. Both Dorothy and Frances had revealed their secrets to the group, and strong hostile-dependent feelings developed. Both of these members threatened disclosure, and this was an attack on the entire group and the group process. Group survival was threatened by the possibility of either acting in rage. The group was very supportive of both as Frances and Dorothy worked through their conflicting feelings. In the end Dorothy found she really liked Frances's son, and Frances became less threatened.

When old members leave the group and new members enter, the group often reminisces about old members who have left, sometimes fondly, or at other times with resentment. They describe feelings of abandonment and separation revived by their anxiety regarding the new member. Even as they do this, they know this "in-talk" is excluding the new member.

It can also happen that the new member knows a former member. Dr. X was in a group for a short time before he fled therapy. A year later Dr. Y joined the group. The group discussed Dr. X, and Dr. Y recognized him as a fellow internist and asked about his problems. The group talked it through and then decided not to tell the new member any further details regarding Dr. X. They explained to Dr. Y. the group's need to protect the confidences shared therein.

The group must take considerable responsibility not only for what goes on in group sessions but for what goes on between group members outside of the group as well. They share this responsibility with the therapist. At some point in the session we ask: "Have there been any extra-group contacts this week?" This sets a tone, and an attitude develops such that the group comes to learn why it is important to bring up these contacts. These encounters may be on the way out of the group room, in the parking lot, or at the theater where they merely have passed each other and seen each other's spouses.

We try to encourage members to value therapy, and hence the group, over friendship with another member. Sexual involvement frightens both the group and the therapist. This means that the group welcomes the assurance that controls will be set. George and Louise were in the same group. Both were single, lonely, and in their twenties. Neither of them had been able to make a satisfying long-term relationship, although Louise was living with a man. George wanted to date her and brought this up at a group meeting. Louise shared his feelings, and, besides, her other relationship was dwindling. The couple decided that they would not feel comfortable sharing their feelings regarding their sexual experiences with the group. The group expressed many feelings and fantasies about their romance. After several months, when George and Louise had decided to live together, George set a date when he would leave the group. He felt that leaving was a male prerogative so that it must be he, not she, who would separate from the group. Louise felt selfish, but she badly needed the support of the group in handling the intense expectations of the relationship. She was able to discuss these and managed to work it through to a fairly satisfying solution.

Doctor Richard Rappaport of Chicago discussed a difficult problem in confidentiality. A former patient challenged the psychiatrist's right to account to an entire therapy group information which had been related to him in a private therapy session. The ex-patient argued that Rappaport had violated ethical standards. While the patient was still a member of the group, he had an affair with another member of the group. Despite the fact that there was a previously announced rule that extra-group relationships must be shared, the couple refused to discuss it in group. The physician

found it necessary to reveal the information himself. He maintained that failure to have shared this information with the group would have undermined the total therapy process.

This incident was reported to the Ethics Committee of the American Psychiatric Association, but the committee in turn dismissed the complaint without taking a decisive position on the ethical issues raised. Rappaport urges that: "Confidentiality should be clearly defined in mental health (legal) codes. Such legislation should reflect the idea that all interpersonal relations between members of the group must be discussed. The group therapist has an ethical obligation, not only to each individual patient, but also to keep the group viable as a therapy setting. . . . The confidentiality that usually exists between the therapist and patient is functionally considered to exist between patient, therapist and all group members."

I have not taken as strong a stand as Rappaport. When a spinster lady confides that she is noticing sexual feelings towards a male in the group, I support her in sharing this with the group **when** she feels ready to do so, but do not pressure her to do this.

One of the most difficult problems in sharing arises when A dislikes B and confides this to me in an individual session. I try to encourage A to look at what about B bothers him/her, to explore this area in him/herself, and suggest how the group could help him/her with this.

Alexander Wolf points out that dynamically-oriented therapy is well-suited to the group setting:

"The manifold kinds of interaction among the group members, clarified by proper interpretations of the leader, quickly cut through resistances and defenses. Exposure to the verbalized problems of other patients, experiencing of hostility, criticism, and a variety of transferential projections (between patient, group and therapists) enable motivated individuals to become increasingly perceptive about their own unconscious emotional processes. This was particularly helpful in dealing with **rigid character defenses**.... Each patient identifies with certain members of the group and rejects others, with multiple transferences with recreated sibling and parental figures. He is in this way often enabled to work through distortions that have resisted individual psychoanalysis.... Moreover, the objective reactions of the other participants provide a forum for reality testing. Patients become more capable of tolerating criticism and hostility that was directed toward them and to distinguish projections based on transference from realistic accusations." **(Wolf, A, 1970, p ix)**

CREATING THE GROUP

Yalom, in his helpful book, **Theory and Practice of Group Psychotherapy,** describes how to create and maintain a group. The first role of the leader is to select the patients, arrange a time, and to provide a suitable setting for the group. Yalom sees referred patients privately, only twice, and does not attempt an extensive workup at this time. Rather, he focuses on interpersonal relationships within the patient's present life, explains how working within the group can help, and tries to avoid potential dropout by obtaining an initial commitment to remain for several sessions, explaining that in the early stages there will be anxiety and resistance.

Some therapists prefer to work with groups which show homogeneous symptoms, as, for example, a diabetic group or an alcoholic group. My own preference is for groups which are mixed, both in regard to age and symptomatology. I do, however, tend to combine patients in broad age groupings: early adolescents, ages eighteen to thirty, and over forty. Obviously, all patients are not suitable for group therapy. I have sometimes found it useful to include one psychotic - if she is "together enough" to participate. Acting-out patients may be cautiously included:

Dick was a graduate student, with passive-aggressive conflicts. I suggested that more therapy would be helpful to him, especially through group therapy. He became enraged, pounded his fist on my desk, then kicked the desk, almost toppling it over on me. A few weeks later he joined a group and had a very helpful group experience and with no further expression of violence.

Some of the most appropriate patients for group therapy are those with sensitive character disorders, borderline and neurotic

patients who have had some individual therapy and have been able to work through their initial resistances. Other "suitable" patients are persons with poorly defined ego structures, lonely individuals with inadequate self-images, or those who have had deprived and traumatic childhoods resulting in an incorporation of ego-dystonic parental figures. Such patients can borrow identity and ego strength from the group.

After a patient has been to group sessions once or twice, I ask him /her to have an appointment with the co-therapist who is usually a social worker. I may have the patient see the co-therapist before his/her initial visit to the group if he/she displays marked apprehension, or if there will be a lengthy delay before the first group meeting. During this appointment the patient establishes rapport with the co-therapist, and the co-therapist answers questions about the group. No matter what I may have given previously in the way of thumbnail sketches of the group members, most new members retain very little of it until they have attended the group several times and have interacted with the others. This is an important interview in that it helps to integrate the novice into the group.

THE GROUP AS A SOCIAL SYSTEM

Yalom stresses teaching the group to self-monitor and to assume responsibility for what goes on. If he feels tired after group he will tell them this next time. He will encourage them **not** to act like passive TV watchers in the group (and thence outside the group), to take initiative for what is going on. He may say, "last week was different, I wonder why - what do you think makes a good group meeting? How satisfied is everyone today with the group?" The group is a place for self-disclosure - not a forced confessional. This means that patients must proceed at their own pace:

When an Alcoholics Anonymous (AA) joined a group, he was willing to talk about his drinking problem at length, but clammed up when asked about his profession, saying he wished to preserve "anonymity" about it. The group became furious with him, not appreciating AA policies. Here the leader has to support the new member's right to disclose things at his own pace. A transvestite or homosexual new member may be very anxious about disclosing his problems. After he has said a little —"mini-disclosure"—the leader must stop him, and ask how he feels about disclosing, what he fears about disclosing more, and how the group feels about this, rather than letting him go into great detail before the group is ready to relate to him as a person.

The major task for the therapist, then, is to analyze the interactions which occur between therapist and the group and between group members. Yalom describes the therapist as a "time-binder" never starting a group session without referring back to the last meeting. He might say, "What feelings did you take home with you last week?" He has tried dictating a summary which he mails out to the members during the week.

Recurring patterns tend to show up within the sessions. The first speaker starts off describing **his/her** crisis of the week. As the group members respond, they tend to become harnessed to this incident which now monopolizes the meeting. The first speaker is reluctant to give up the spotlight. Intervention by the therapist may be necessary to point out what is happening, and to help the group to take initiative and responsibility. He may ask why the group lets this happen and how it makes them feel, and may take this opportunity to stress again that the group meeting is the most important event of the week for **each** of them. In other words, the group is being encouraged to notice the feelings and the dynamics within the group.

The leader may assist by summarizing: "You have all taken risks today, and this has not been easy for you. But something else has been happening, you have been sizing each other up, developing your first impressions of whom you like or dislike most". Thus, he is giving permission to feel both positive and negative feelings in contrast to usual social intercourse. He is setting a tone in which it is feelings which will be talked about and an orientation toward **process** rather than on **detail.**

The members come to understand that they have learned early that there is a taboo against examining process in everyday life, that there is, in fact, a contract **not** to engage in such examinations. The one exception to this is the parent-child relationship, and here

the examining is in a one-way direction. It is the parent who says: "Why did you do that?" Despite the fact that those within the group are seeking closer relationships, they must still start by discussing symptoms. The therapist helps by interpreting these symptoms as psychological equivalents and sets a tone within the group making it the perfect arena to risk experimenting, opening up, and sharing!

Bob was a middle-aged bachelor, who had felt rejected many times. He applied to a weight-control group and was rejected because he was in therapy. With a great deal of support from the group, he protested this rejection, demanded an interview with the leader of the weight-control group, and succeeded in asserting himself — a risk he had never dared take.

ALTERNATE MEETINGS AND INDIVIDUAL THERAPY COMBINED WITH GROUP

When I began working with groups, I felt possessive about the group meetings. It seemed to me that everything must be done within the group session with a focus on intra-group processes. But then there were emergencies which came up between sessions, and I found that more frequent meetings (perhaps twice a week) could almost completely eliminate these emergencies. On their own, on one occasion, the members of one of my groups held a post-session meeting following the regular group meeting. I discovered that a great deal had happened. The group had begun to be able to see their feelings toward the therapists more clearly and were able to talk about them more openly. This material was brought up at the next regular session, which helped to set some controls and some limits. Now I would ask at the next session, of the post-session: "What were the issues; how did you feel about the post-session"?

Gradually, I began to encourage the group to plan an **alternate meeting** at a set time and place, and it worked. My fears that the patients would act out or lose impulse control in the absence of the restraints of the therapist proved groundless. Instead, I discovered that the alternate session gave these patients a useful opportunity for **distributed leadership.**

Here is one instance of such assumption of responsibility: Eleanor, who had previously attempted suicide, became enraged during an alternate session. She stormed out of the group, drove around, and finally went home. The group kept phoning until they reached her. She returned to the group the next week with a new appreciation both for the group and the fact that she could handle her rage and impulses. From here on, the group was much more involved, having developed a deeper sense of responsibility for one another.

I find individual therapy combined with group therapy ideal. What comes up in the group can be enlarged upon in the individual session. Patients are encouraged not to compartmentalize their therapy: what is brought up within the individual session must be brought up in the group and vice-versa. This is even more important when the individual therapist is a person other than the group therapist. A great deal comes out in the group session that enhances the individual therapy sessions.

A. Wolf has said: "Many patients will first need a one to one relationship with a therapist, corresponding to the early infant-mother relationship, and subsequently will need the experience of working through conflicts in multiple and varied types of relationships, corresponding to childhood experiences in the family, and interaction in a wider social network. These multiple relationships and experiences are readily available in small group therapy which provides ample opportunity to work through problems in interpersonal relationships and serves, at the same time, as a mirror of the patient's internal object relationships . . . Through having the same therapist in both situations (group and individual therapy) the patient will first relive . . . in individual therapy, the dyadic infant-parent relationship (and through the addition of group he will learn) to establish more adult relationships, both inside and outside the group." p. 177-84

I have found it effective to see some patients in group therapy who are in individual therapy with others, either with other psychiatrists or with non-physician therapists. Where a therapist other than myself is involved, communication between the therapist and the group leader is essential

in order for the two therapies to enhance each other.

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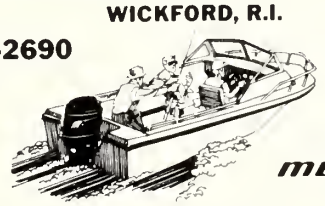

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Efficacy Of Lithium Carbonate In Alcoholism: Case Studies

Lithium Carbonate Should Be Considered For Those Chronic Alcoholics Who Are Endogenously Depressed

By Peter P. Reilly, M.D.

Alcoholism is defined by Block et al cited by Mendelsohn[1] as a "process proceeding through psychological dependence, loss of control, and eventually physical dependency."

Most authorities agree that alcoholics really do not fit into specific psychiatric disease entities. Some apparently are neurotic, some are obsessive-compulsive, some are depressive, and others are schizophrenic. A large percentage, once the alcoholic problem is out of their lives, cannot be distinguished from "a normal population".

The purpose of this paper is to present data and clinical cases which can demonstrate the efficacy of lithium carbonate in a population of chronic alcoholics who are endogenously depressed with family histories of both illnesses. The cases in this series, which range in age from 29 to 45 years, were intractable to other treatment modalities. Once placed on lithium carbonate,they were asked to refrain from any ingestion of alcohol, to agree to take their lithium as scheduled, and to have tests of serum lithium levels, which were kept between 0.5 mEq and 1.5 mEg/L. Prior to placement on the lithium carbonate therapy, all candidates were sent to internists and had careful medical histories and thorough physical examinations. Thyroid, liver, renal, and electrolyte studies were normal.

Lithium competes with sodium at the distal convoluted tubules of the kidney; therefore kidney integrity is essential. If severe kidney disease is present, lithium balance will be disrupted. Therefore, this is the one absolute contraindication to the use of lithium. Lithium carbonate is the only psychiatric medication of which we are aware that can be monitored in the blood. Serum lithium levels are determined at least weekly together with weekly monitoring of the mental status. The use of both clinical and blood level monitoring places the physician in control of the situation. He is unlikely to be in trouble with the lithium therapy as long as serum lithium levels are kept below 2.0 mEq/L. Since older persons excrete lithium slowly via the kidneys and detoxify the medication slowly in the liver, it is wise to assure that serum lithium levels do not exceed the 1.5 MEq/L range. If a patient

PETER P. REILLY, M.D., *Child-Adult Psychiatrist, formerly Clinical Instructor in Psychiatry at Harvard Medical School; currently on Active Staff at St. Joseph's Fatima Hospital and Consulting Staff of the Miriam Hospital, Providence, RI.*

who is a hypertensive is on a diuretic, biweekly serum lithium and serum electrolyte levels are necessary. If the serum sodium levels drop below the normal range, lithium dosage must be reduced or the lithium discontinued, especially if the patient must remain on the diuretic. Initially, all patients in the current study were started on lithium carbonate 300 mg twice daily. Lithium dosage was not increased until a week had passed and two serum lithium levels were available, together with a clinical review of the physical and mental status, making sure that no pre-toxic or toxic symptoms existed. A review of the literature and my own observations[2] indicate that lithium is a non-addicting and non-habit-forming medication. It has been my experience and the experience of others with extensive clinical use of lithium carbonate that side-effects and pre-toxic or toxic symptoms are reversible with discontinuation of the lithium. In order to insure reliability, and reduce the chance of self-destructive actions, an ally must be made of a close relative of the patient, and in this way there will be a countercheck of lithium dosage and alcoholic abstinence.

EPIDEMIOLOGICAL AND DEMOGRAPHIC FACTORS IN ALCOHOLISM

The etiology of alcoholism is still obscure. Many studies show that some alocholics followed through long periods of sobriety appear to have a depressive illness with other blood relatives also depressed and affected by the alcoholic habit. Some have a history of sociopathy, while others appear to have no definable psychiatric condition other than alcoholism. More men than women become alcoholic, the ratio usually reported as five to one. Alcoholism runs in families, at least 25 per cent of the fathers and brothers of alcoholics being alcoholic. It is relatively common among urban Negros and American-Irish-Catholics, and rare among Jews. There is a correlation between troubles in high school, delinquency, truancy, and some predictable future troubles with alcohol. People living on farms or small towns have a lesser incidence of alcoholism than city-dwellers.

The age of risk is between 20 and 45 years of age, although of late the lower age limit is dropping into the low teens. Evidence suggests that older alcoholics who reach the age of 50 or 55 years have a somewhat better prognosis than do younger alcoholics. The incidence of alcohol problems among the aged has been estimated to be as high as 50 per cent in the population over age 65.

MEDICAL COMPLICATIONS OF ALCOHOLISM

Three types of problems bring the alcoholic to the physician: 1) medical complications, 2) withdrawal symptoms, and 3) the compulsion to drink despite adverse consequences. All alocholics should have a complete physical examination. Thirsty alcoholics may be disguising occult diabetes mellitus. Alcoholics are prone to develop pancreatitis which may lead to chronic pancreatitis which may lead to other problems. While prevalence of tuberculosis has decreased, its incidence and prevalence are higher in alcoholics than in the general public. Since alcoholics often are ataxic and hence fall, subdural hematoma is always a possibility and is easily missed. The incidence of peripheral neuropathy is high in alcoholics. They often have bruises around the trunk and lower extremities because of stumbling and falling over furniture. A small percentage have tachycardia and hypertension. Laennec's cirrhosis with secondary hemorrhoid problems is not infrequent.

Gastritis and gouty attacks may be alcohol related. Some studies show that the retention of uric acid is directly related to the metabolism of alcohol. Cardiomyopathy and myopathy are not infrequent complications of alcoholism. Anemia of any kind should alert the physician to the possibility of alcoholism, and rarely, hemolytic anemia with stomatocytosis is found.

Alcoholism and acute alcoholic intoxication may effect the dosage requirements or oral hypoglycemic agents, anticonvulsants, and anticoagulants, because of the effect on hepatic metabolism and liver enzymes.

USE OF MEDICATIONS IN THE TREATMENT OF ALCOHOLISM

Such minor tranquilizers as the benzodiazepines have proven useful by reducing feelings of apprehension and

anxiety. The phenothiazines do not produce withdrawal syndromes as do the minor tranquilizers, and their actions are subcortical. The phenothiazines are best used in alcoholic patients who are psychotic or schizophrenic. Librium® (chlordiazepoxide) and Vistaril® (hydroxzinc pamoate) can produce cross addiction with alcohol withdrawal states. LSD and the antitrichomonal, Flagyl® have enjoyed some clinical popularity, but no demonstrated efficacy.[3]

ALCOHOLIC WITHDRAWAL SYNDROME

According to Mendelsohn et al,[2] withdrawal can range from a mild self-inflicted state of anxiety or psychomotor agitation to a potentially lethal condition. The reported mortality rate 20 to 30 years ago was 15 per cent, while currently it is approximately 0.5 per cent. The difference in mortality is attributable to the use of more sophicticated medications, better treatment of secondary infections, and better and quicker management of electrolyte imbalance.

The clinician may see all or part of the withdrawal syndrome or delirium tremens (DT's). The clinical picture usually includes "shakes," sometimes benign hallucinations, and occasionally grand mal seizures, especially in the first 24 hours. On the third day the heavy drinker will get the typical DT's. This constitutes a major medical emergency which requires energetic and immediate treatment. Such tranquilizers as Thorazine® and Librium,® especially the latter, are helpful. Sellers has shown that lithium carbonate is useful. Some studies have found that the hyperactivity, psychomotor agitation and insomnia occurring in alcoholism are due to sodium retention in the CNS and it is believed that lithium replaces intraneural sodium, stabilizing the neuronal membrane and thus correcting the neurophysiological abnormality.

CROSS DEPENDENCIES AND TOLERANCE

According to Mendelsohn et al,[1] there is little cross dependency between sedatives and narcotics, but there are 8 to 18 per cent of heroin addicts who are on methadone who use alcohol to excess. Alcohol excess alters tolerance and increases the dosage requirements of medication such as anesthetics. The alcohol effects liver metabolism and liver enzymes can speed up the metabolism of other drugs when the alcohol is not being used. One of the problems in treating alcoholics with minor tranquilizers is the synergism that exists between that type of medication and alcohol, and also the rapid development of crosstolerance and dependency.

Three frequently used treatment modalities for alcoholics are group therapy, disulfiram (Antabuse®),[4] and Alcoholics Anonymous. Studies show that combinations of the three modalities have usefulness.

CASE REPORTS

Case 1. A 35 year old male shopkeeper, who came from a family of heavy alcohol drinkers, felt he was following a family tradition of self-destructiveness, all of the drinkers having eventually died of cirrhosis. Like an arrow heading toward the target, nothing could stop him until his wife, and especially, the children started standing in judgment of him. This frightened him and caused him to have a deep feeling of shame. He went to counseling with a local professional, entered Alcoholics Anonymous, and later began to sink back into old ways and the "old habit took over". He was placed by a local medical doctor on Antabuse®, which he took infrequently. It was at about this time that I was asked to see him and found him to be a depressed, despaired, disillusioned person who had "given up" on himself and was ready to complete his self-destructiveness downhill course. I had his liver function studies checked. Despite his alcoholic habit, his liver was still in decent shape with some evidence of early cirrhosis, but apparently not yet fibrotic. His kidney and thyroid function studies were normal, and he had no sodium imbalance. I therefore considered him for lithium carbonate therapy. I found him to be a refractory endogenous depressive with a strong family history of depression and alcoholism. I started him on 600 mg of lithium carbonate at hour of sleep, and in five days he reported feeling "calmer", "not so edgy", but with some side-effects of nausea, lithium insomnia, slight ataxia, slight hand tremors, but wanting to return to work. He did return to work after a long sabbatical. Within five days his lithium was increased to 900 mg daily — 300 on arising, 600 at bed-time. Two

weeks after starting lithium carbonate he was continuing to function well in work and felt relaxed. His lithium carbonate was increased to 1200 mg daily — 600 mg on arising, and 600 mg at bed-time. Serum lithium levels were taken biweekly ranging between 0.5 mEq/L to 0.9 mEq/L. Six weeks after starting the regime, he continued to take 1200 mg daily with a serum lithium level of 0.7 mEq/L, with side-effects of slight hand tremor, but feeling more energetic, less irritable with less need for sleep and no need for alcohol. After nine weeks patient's serum lithium rose to 1.13 mEq/L on 1200 mg of lithium carbonate daily. Later he admitted to cheating in that he was "taking alcohol and was skipping some lithium dosages". At that time I added Elavil® 50 mg daily at bed-time to reduce lithium insomnia, which occurs in about 10 per cent of patients on lithium. We made an ally out of his wife, who kept careful track of his lithium When the patient's motivation started slipping, she made sure that he took his 600 mg twice daily with good results and less need for alcohol, although he admitted to taking an occasional beer.

Case 2. A 29 year old male, who was bright, articulate, and "following a family tradition" of "drinking alcohol". He had been heavily indulging for the past five years. His marriage was in jeopardy because of the alcoholic habit. His medical examination was negative except for early stages of Laennec's cirrhosis, with slight abnormalities of liver function tests. The thyroid, renal, and electrolyte studies were all in the normal range. He was started on lithium carbonate 600 mg at bedtime, with a serum lithium level of 0.4 mEq/L. During the first week he had transient nausea and slight hand tremors with "better impulse control" and was "less irritable". He did not feel sedated but noted "a feeling of calmness". Alcoholic consumption was reduced from 12 to 8 cans of beer daily and eventually to 6 cans of beer every other day. In the second week the patient's lithium carbonate was increased to 900 mEq/L daily (600 mg at bed-time, and 300 mg on arising). Patient noted a slight increase in nausea and intermittent diarrhea, with serum lithium levels ranging between 0.6 mEq/L and 0.9 mEq/L. At the end of four weeks the patient was maintained on 900 mg of lithium carbonate daily with serum lithium levels on a weekly basis averaging between 0.9 mEq/L and 1.0 mEq/L. Patient stated that he felt less depressed, less irritable, and with feelings of calmness prevailing. Later he noted "feeling less impulse ridden" and "less angry." Patient also felt his ability to concentrate had improved and he felt more productive in his work.

At the end of five weeks, he was continued on 900 mg of lithium carbonate and developed pretoxic symptoms of ataxia, disequilibrium, and hand tremors with a serum lithium level of 1.03 mEq. Lithium carbonate was reduced to 600 mg daily (300 mg on arising and 300 mg at 6:00 pm). Patient then became insomniac, so that Elavil® 100 mg at bed-time, a sedative serontonergic tricyclic antidepressant, was started with good results in terms of diminution of insomnia. It was noted that the patient had a history of anxiety tremors preceding the start of lithium carbonate therapy. Patient admitted at this time to "taking 3 to 6 cans of beer daily" instead of his "usual dozen." At 8 weeks the patient was without side-effects with disappearance of ataxia and tremors; he was continued on 300 mg of lithium carbonate at noon and bedtime. At 12 weeks, there was a relapse with regression to alcoholic habits and a return of depressive affect and anxiety, with a drop in serum lithium to 0.2 mEq. Patient at that time had started a new job. He became fearful with occasional confusional states as his anxiety level increased, and expressed definite "fear of falling apart".

At the end of the 8th week, Elavil® was discontinued. I discussed with the patient the idea of seeing a neurologist, getting a neurological examination, electroencephalogram, and a computerized axial tomography (CAT scan). Neurological examination, electroencephalogram, and CAT scan were negative. Patient tried to stop alcohol completely, developed paranoid fears, and was doubtful of whether he would resume lithium carbonate therapy, but decided he would. During the 9th week to the end of the 12th week, the patient began feeling somewhat better and stopped drinking. At the end of the 12th week the lithium carbonate was maintained at 900 mg daily with serum lithium levels averaging 1.15

mEq/L, with no side-effects or toxic symptoms. At the end of the 14th week, the serum lithium level was 0.9 mEq/L. He was maintained on 900 mg daily and felt more relaxed "than in a long time".

Between the 16th to the 24th week the patient was continued on 900 mg daily with serum lithium levels between 0.7 to 1.12 mEq on weekly serum lithium monitoring. Patient admitted to drinking 3 to 4 cans of beer several times weekly and developed diarrhea. Elavil® 10 mg at bed-time was instituted for anticholinergic, antidepressive, and antianxiety effect in combination with the lithium carbonate 900 mg daily. Currently, the patient is on 1200 mg of lithium carbonate daily (600 mg twice daily) with no other medications. Patient is functioning well with "infrequent drinking of beer" (one day a week he drinks five beers). He is less depressed with an improved social life, better exercise of judgment in his work, less cyclic mood swing, and serum lithium levels between 0.8 to 1.2mEq, with no side-effects or toxic symptomotology.

Case 3. This is a 45 year old, female, who is widowed, bright, and capable, held a responsible job, and has always been a good performer. Patient has been subject to psychic swings of emotion all her life, but in the last ten years depression has become her almost constant affect. Her nuclear family is replete with depressives and "heavy drinkers". As her depression became deeper and was "always with her", she became more desperate. What had seemed like casual drinking 15 years ago, in the last 10 years became a recognizable and crippling problem to her. The increase in alcoholic consumption appears to be proportionate to the depth and constancy of her depressive affect, which is manifested by sadness, feelings of helplessness, multiple non-specific body symptoms, especially in the gastrointestinal tract, with poor energy levels, difficulty in concentrating, and declining interest in pursuing former goals. The patient says she drinks "to relax herself" and escape the "always present feeling of lousiness". Since the patient lives with a male friend who is reliable and has been trying to help her I knew when I introduced the idea of lithium carbonate therapy that I had an ally, which was necessary in this case. The patient was initially given lithium carbonate 300 mg orally at bedtime. The patient quickly developed nausea and hand tremors with serum lithium levels of 0.2mEq. With the low lithium dosage and low serum lithium levels the side-effects did not make sense. When I told the patient that these symptoms were transient, the symptoms disappeared in a day, despite an increase of lithium carbonate to 600 mg daily, with serum lithium levels between 0.4 mEq and 0.5 mEq. One must always wonder how much of a role suggestibility plays in the production or improvement of symptoms, since I had stressed to the patient prior to initiating lithium therapy that she might feel nauseous and have some hand tremors. Lithium carbonate was increased at the end of a week to 900 mg daily with serum lithium levels of 0.6 to 0.7 mEq. The patient began to experience what she called "a strange feeling" which she could not explain despite good verbal skills and high intelligence. She was finally able to admit that she felt "calmer", but having never experienced that affect, she had difficulty allowing herself to describe the "good feelings". Patient has been maintained on 900 mg by mouth, divided into 300 mg three times daily. Patient continues to have less desire for alcohol, feels less depressed, and is hopeful of returning to her former employment. Her male friend finds he has less of a burden in that he no longer has to monitor the patient as she becomes more motivated and more accustomed to the lithium regime and more accustomed to experiencing good feelings instead of "lousy feelings".

COMMENTS

Alcoholism is a chronic, incurable disease subject to relapses. It has to be thought of as a physical and psychological disorder characterized by impulsive and compulsive drinking, tolerance, and physiological addiction with multiple organic sequelae.

Numerous studies show that coerced patients, even after several months of treatment, still require external pressure which, when removed, usually is not replaced by self-motivated desire to stay in psychotherapy or continue with lithium treatment. This and other studies suggest that coercion is unlikely to succeed when the

patient has little to lose by not complying. However, if one can make an ally out of a family member or friend to help the patient keep his/her commitment to psychotherapy and taking medications, the results are better in some cases than asking the patients to do it for themselves.

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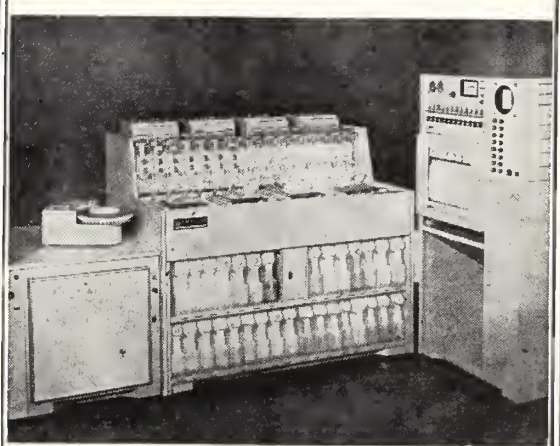

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Editorial

PROGNOSIS IN MALIGNANT MELANOMA

A decade has passed since the classical report of Wallace H. Clark, Jr.,[1] from the Massachusetts General Hospital on "The Histogenesis and Biologic Behavior of Primary Human Malignant Melanoma of the Skin" based on a study of 269 cases. While Wallace's classification is not followed uniformly, his studies have had a considerable impact on the understanding of the biological behavior of melanoma. He described three forms of human melanoma: 1. superficial spreading melanoma, 2. nodular melanoma, and 3. lentigo malignant melanoma. His evidence has led him to conclude that superficial spreading melanoma and lentigo malignant melanoma (Hutchinson's melanotic freckle), though they evolve at different rates, have a long period of superficial growth, followed by the rapid appearance of nodules or deeper invasion within the primary lesion.

This change may be due to the appearance of cells of aggressive biological potential. The primary lesion may persist for a considerable period while the host, due to selective resistance factors, permits the growth of malignant strains of cells. It is these cells which appear to be capable of deeper growth. The subdivision of each of the forms of melanoma into five anatomic levels of invasion permits the assignment of an accurate prognosis to each case.

Each melanoma has a distinctive clinical appearance, even in its superficial and curable phases. Melanomas are probably tumors of the epidermal melanocytes and not necessarily derived from melanotic nevi. Each tumor has a recognizable appearance, distinctive miscroscopic characteristics, unique fine structure, and predictable biologic behavior; but within each type behavior may be accurately predicted by the depth of invasion. The levels are as follows:

Level I. All the tumor cells are above the basement membrane. This is by definition **in situ** melanoma.

Level II. The neoplastic cells have broken through the basement membrane and extended into the papillary dermis, but have not gone to the reticular dermis.

Level III. This is the interface between papillary and reticular dermis where collagen begins to be organized into bundles.

Level IV. Extension to this depth shows neoplastic cells between the bundles of collagen characteristic of the reticular dermis.

Level V. This is characterized by invasion into the subcutaneous tissue.

The comparative survival periods (upwards of five years) for the three types of melanoma were 46.5 per cent for superficial spreading melanoma, 27.3 per cent for nodular melanoma, and 55 per cent for lentigo maligna melanoma. However, if the level of invasion were used irrespective of clinical type, the survival rates were 72.2 per cent for level II, 46.5 per cent for level III, 31.6 per cent for level IV, and 12.0 per cent for level V. The latter figure was probably high due to insufficient follow-up (average of 3.5 years as contrasted to five or more years for the other categories). Combining the clinical and histologic types with the level of invasion appears to give a sophisticated method of prognosis.

Breslow[2] in 1970 described the use of the thickness of the tumor measured with a micrometer as a prognostic indicator. This method has now also been widely used. A number of other reports having bearing on the prognosis of melanoma have appeared recently. Das Gupta[3] based on a study of 269 cases concluded that the level of invasion as proposed by Clark is extremely useful, but that the prognosis is also dependent on the presence or absence of regional node metastases. In his experience wide local excision is adequate for level II and for thin level III. For thick level III, and for levels IV and V, however, the best salvage rate is obtained by an aggressive surgical approach involving regional node dissection where feasible and adjuvant therapy.

Cohen et al[4] have reported on the prognostic factors in patients undergoing lymphadenectomy for malignant melanoma. They analyzed 118 melanomas in 117 patients who had undergone node dissection — "prophylactic" (61 dissections) or "therapeutic" (57 dissections). No level I cases were included in the analysis. Among the cases where the nodes were clinically negative, they were histologically positive in 21 per cent. Where they were clinically positive, they were histologically positive in 91 per cent of cases. The authors found that the site of the melanoma and the lymph node status to be more strongly correlated with prognosis than either the level of invasion (Clark) or the thickness of the primary lesion (Breslow).

The WHO melanoma Group[5] reported on a prospectively randomized series of 267 cases in which primary excision and immediate regional dissection were carried out, as compared to 286 cases in which wide dissection was carried out at the time of appearance of metastases. There was no difference in survival between the two groups regardless of how the data were analyzed (sex, site, maximum diameter, Clark's level, or Breslow's thickness). They concluded that elective node dissection does not improve the prognosis in melanoma of the limbs and is not recommended where patients cannot be followed at intervals of three months.

Holmes et al [6] reviewed their experience with 294 regional lymph node dissections in 250 patients. Wallace Clark was a paticipant in this study. They correlated the incidence of regional node metastases with Clark's levels (level III, 29 per cent; level IV, 42 per cent; and level V, 58 percent). Primary melanomas of thickness greater than 1.5 mm had a 38 per cent incidence of positive regional nodes. They therefore recommended regional lymphadenectomy in patients with Clark's levels III, IV, and V, and in cases of melanoma of thickness greater than 1.5 mm.

Elias et al[7] of the Roswell Park Memorial Hospital reviewed 248 patients with malignant melanoma. They concluded that sex, size of the lesion, level of invasion of the primary lesion, clinical status of the regional nodes, and blood vessel and lymphatic invasion were all of prognostic significance. The degree of lymphatic and blood vessel invasion correlated with the level of invasion with respect to prognosis. Gilchrist et al[8] in a study of 415 cases of primary malignant melanoma concluded that blood vessel invasion at the primary site is a superior discriminant for an adverse prognosis.

Breslow,[9] whose studies relating to the thickness of the lesion have been previously mentioned, correlates the resection margin with the depth of the lesion. In lesions less than 0.76 mm thick, where the margin ranged from 0.1 to 5.5 cm, with 32 per cent having a margin of 1.0 cm or less, there was no local recurrence. He believes, therefore, that lesions as thin as this should be treated conservatively with the resection margin depending on the anatomical location of the tumor.

Fortner et al[10] of the Memorial Sloan-Kettering Center reported on 259 patients with malignant melanoma who had elective node dissection. Microscopic metastases were found in 15 per cent of these patients. In a later series of 258 patients they found that the depth of invasion based on Clark's levels correlated directly with the absence of lymph node metastases, extent of nodal involvement, and rate of recurrence.

According to Smith[11] of the M.D. Anderson Hospital the clinical staging of melanoma still has a role in prognosis. This system provides for the following stages: Stage 0, superficial melanoma only; Stage I, primary melanoma (no metastases); Stage II, local recurrence within 3 cm of the primary lesion; Stage III, regional metastases more than 3 cm from the lesion (A. intradermal; B. regional lymph nodes; AB. intradermal and regional nodes); and Stage IV, distant hematogenous metastases. In a review of 510 patients the overall 5 and 10 year survivals were 56 per cent and 43 per cent. Women appeared to fare better than men (at five years 63 vs 49 per cent respectively). Overall 5 and 10 year survivals for Stage 0 and I lesions were 67 and 54 per cent respectively, as compared to 30 and 16 per cent for Stage III-B patients. Smith believes that of the three factors most closely related to biological behavior — level of invasion, thickness of the tumor, and degree of inflammatory response — the measured

(Continued on Page 102)

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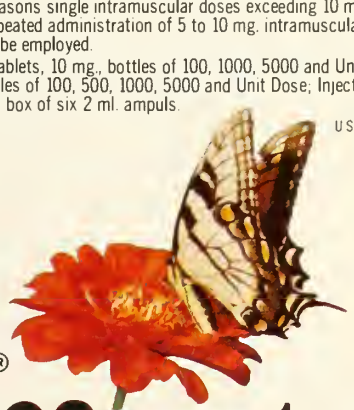

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Report Of The House Of Delegates

Meeting February 1, 1978

A meeting of the House of Delegates of the Rhode Island Medical Society was held in the auditorium of the Society on Wednesday, February 1, 1978. The meeting was called to order by the Speaker of the House, Dr. Leonard S. Staudinger at 2:10 p.m.

Delegates in attendance were: Doctors Peter B. Baute, Joseph R. Peltier, W. A. Van Haaren, Richard T. Zuerner, Juan N. Medina, Paul J. M. Healey, Richard E. Kuhn, Louis A. Morrone, Erwin Siegmund, Douglas Rayner, John L. Mac Iver, Orazio Basile, Alban J. LeBlanc, James R. Hagerty, Richard W. Perry, Constantine Pagonis, Charles J. Ashworth, Jr., Thomas G. Breslin, John J. Coughlin, Frank G. DeLuca, Donald P. Fitzpatrick, Serafino Garella, Herbert F. Hager, Charles L. Hill, Harry M. Iannotti, William S. Klutz, Betty B. Mathieu, Richard T. McDermott, Jr., H. Raymond McKendall, Anthony F. Merlino, Daniel Moore, P. Joseph Pesare, Robert W. Riemer, Guy T. Settipane, Richard P. Sexton, Rajnikant K. Shah, Louis V. Sorrentino, Hugo Taussig, Richard L. Testa, Joseph R. Tucci, James F. Valicenti, Louis Arnow,(substituting for George P. Lewis, Jr.) Royal C. Hudson, Jr., (substituting for David R. Hallmann), Frank W. Sullivan, Charles B. Round, Joseph E. Caruolo, Melvyn M. Gelch.

Delegates absent were: Doctors H. Gerald Rock (excused) William F. Varr, George P. Lewis, Jr. (excused), David R. Hallmann (excused), Nathan Sonkin, Melvin D. Hoffman (excused), Alphonse R. Cardi, Erminio Cardi, George N. Cooper, Jr., (excused), John E. Farley, Jr., Jerry M. Kheradi (excused), Maurice C. Laufer (excused), Joseph P. Lombardozzi (excused), Henry J. Robidoux, Wilma S. F. Rosen, Robert G. Rosenberg (excused), William Q. Sturner (excused).

Members Ex Officio present were: Doctors Seebert J. Goldowsky, John J. Cunningham, Herbert F. Hager and William J. MacDonald.

Member Ex Officio absent was: Dr. Joseph E. Cannon.

Commissioners in attendance were: Doctors Donald P. Fitzpatrick, Kenneth Liffmann, Daniel Moore, Jr. and Anthony F. Merlino.

Commissioner absent was: Dr. Joseph N. Cooper, Jr. (excused).

Specialty Society Representatives in attendance were: Doctors Herbert F. Hager, James B. Leach, Donald B. Singer (substituting for Augustine Colella), Eufrocino N. Beltran, Guy A. Settipane, Arthur I. Geltzer, Charles L. Hill, Joseph E. Caruolo, Paul J. M. Healey, Walter C. Cotter and Ben C. Claunch.

Specialty Society Representatives absent were: Doctors Marshall A. Taylor, Howard S. Browne, Jr., John E. Farley, Jr., Charles E. Millard, Augustine Colella (excused), Augustine M. McNamee, Richard Peters and Bencel Schiff.

Also present were: Jim Clarkin and Jim McGovern.

Approval of Minutes of Previous Meeting

The Speaker noted that the minutes of the October 12, 1977 meeting of the House had been printed and distributed by the Secretary.

Action: A motion was made, seconded and voted that the minutes of the October 12, 1977 meeting of the House of Delegates be approved and placed on file.

Report of the Secretary

The Speaker noted that the report of the Secretary was included in the Handbook.

Of the items reported the following were reviewed:

#11—Ladd School

Dr. Frank W. Sullivan explained the Society's involvement in the Ladd School screening physical examinations.

Dr. P. Joseph Pesare commended Doctors Sullivan, Virks and Grady for their excellent handling of this matter as representatives of the Society. He noted that to date 89 physicians have volunteered and 513 patients out of 750 have been examined, Doctor Sullivan stated that the Governor does plan to recognize the physicians in some manner when the program is completed.

#16—The Sunshine Act

It was recommended and approved by the house that a letter be sent to HEW voicing disapproval of HEW's requirement under the Disclosure Act that all 1977 Medicare and

Medicaid reimbursements by third party carriers to physicians be made available to the public upon request.

Action: A motion was made, seconded and voted that the Report of the Secretary be approved and placed on record.

Report of the Treasurer

The Speaker noted that the Report of the Treasurer was included in the handbook.

The Treasurer expressed dissatisfaction with the investment funds earnings and advised that the Sub-Committee of the Budget and Finance Committee would meet in the near future to discuss other alternatives for investing these monies and will present such recommendations to the Council at its next meeting.

Action: A motion was made, seconded and voted that the Report of the Treasurer as submitted be approved and placed on file subject to audit.

Recommendations from the Council

The Vice-President, Dr. Charles B. Round, in the absence of the Secretary, Dr. Melvin D. Hoffman, presented the recommendations from the Council and the following actions were taken:

1) **Spring Meeting of the House**

A motion was made, seconded and voted that the recommendation to hold the Spring meeting of the House of Delegates on Wednesday, March 15, 1978 at 2 p.m. be adopted.

2) **Blue Shield Directors**

A motion was made, seconded and voted that Doctors John J. Cunningham, Edmund T. Hackman, Kenneth Liffmann, and Melvin D. Hoffman be approved as Directors of Blue Shield.

3) **Nursing Home Bill**

A motion was made, seconded and voted that the House of Delegates approves the Council's position relative to the Nursing Home Bill:

"In reference to the law requiring the pronouncement of death of a nursing home patient by a physician, it is the opinion of the Council that a member of the Society is acting within moral and ethical limits if he should respond in a reasonable amount of time taking into account his professional responsibilities."

4) **The Disabled Physician**

A motion was made, seconded and voted to approve the mechanism for helping the Disabled Physician as outlined in Appendix A of the Handbook.

5) **Blue Shield Professional Advisory Committee**

A motion was made, seconded and voted that Doctors J. Robert Bowen, Joseph D. DiMase, and John P. Grady be reappointed to the Professional Advisory Committee of Blue Shield.

Benevolence Fund

The Speaker noted that the Trustees of the Benevolence Fund had filed their 1977 financial report for the information of the House.

The Treasurer noted that a total of $7,000 had been received from 151 contributors. It was requested that at least two mailings per year soliciting contributions be made.

Action: A motion was made, seconded and voted that the report from the Trustees of the Benevolence Fund be received and placed on file.

Report of the Delegate and Alternate Delegate to the AMA

The Speaker noted that the Report of the Delegate and Alternate Delegate, Doctors John J. Cunningham and Herbert F. Hager respectively, were included in the handbook.

Resolutions

The Speaker presented a resolution as submitted to the House in the handbook for the meeting from Dr. Thomas G. Breslin proposing that the Society retain a full-time legal counsel for duties both as a lobbyist and for legal problems that the Society or one of its members might have, that such resolution should not be put before the Council of the Society and that the cost of such legal counsel be borne by an annual assessment of $50 per Society member.

A motion to poll Society members on this resolution was made, seconded and voted. The motion was defeated.

The Speaker presented a resolution as submitted to the House by Dr. Peter B. Bautein the handbook for the meeting relative to support of the application of the Kent County Memorial Hospital for an increase in bed capacity.

Resolution: Whereas the Kent County Community has documented fully its need for additional bed capacity and whereas the Kent County Memorial Hospital and its Staff are continuing to make every possible effort to control serious and possibly dangerous overcrowding, be it hereby resolved that the Rhode Island Medical Society strongly

supports the application of KCMH for an increase in bed capacity.

A motion was made, seconded and voted to support the above resolution.

Reports of Committees

The Speaker noted that there were committee reports in the handbook for the information of the members, but none called for any specific action by the House.

Action: A motion was made, seconded and voted that the written reports of the following committees, as submitted to the House, be received and placed on record: Cancer Committee, Committee on Medical Aspects of Sports, Committee on Continuing Medical Education, Publications Committee, Scientific Work and Annual Meeting Committee, Alcoholism Committee, Maternal Health Committee and the Mental Health Committee.

New Business

Doctor Sullivan reviewed the recommendations submitted to Governor Garrahy pertaining to the Certificate of Need Bill.

A request was made that the staff check physician representation on the Health Planning Council and the Health Services Council.

Adjournment

The meeting was adjourned at 4:30 p.m.

Respectfully submitted,
Frank W. Sullivan, M.D.
President
(in the absence of
Melvin D. Hoffman, M.D., Secretary)

NOTICE

Whenever the space allows the **Rhode Island Medical Journal** will publish minutes of the meetings of the House of Delegates. If minutes of any meeting cannot be published because of lack of space, a member may receive a copy by calling the executive office at 331-3207.

Ed.

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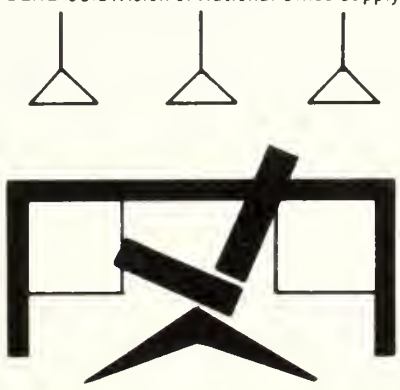

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Book Review

PSYCHIATRIC TERROR: HOW SOVIET PSYCHIATRY IS USED TO SUPPRESS DISSENT by Sidney Bloch and Peter Reddaway. Foreword by Vladimir Bukovsky. New York: Basic Books, 1977. $12.95.

The authors of this chilling book are respectively a lecturer in psychiatry at Oxford University (Sidney Bloch) and a senior lecturer in political science at the London School of Economics (Peter Reddaway). They had met for the first time early in 1972 shortly after the international congress in Mexico City of the World Psychiatric Association. That international meeting had been highlighted by an intense controversy over the alleged misuse of psychiatry in the Soviet Union for political purposes. The leaders of the congress, because of concern about offending the Russian delegates and thus disrupting the meetings, conspired to sweep the matter under the rug despite a strong disposition by some of those present to have the congress take a stand.

Russia had had a long but sporadic history of abusing psychiatry for political purposes dating back to the celebrated Pyotr Chaadayev case in which the victim, a Russian philosopher, was declared insane in 1836 by Tsar Nicholas I after denunciation by the Tsar's secret police for writing critically of the tsarist regime. As is so often observed, the oppressions of the Soviet communists appear to be more closely related historically to Russian culture than to ideological imperatives.

In Soviet communist theory the concept of the collective dominates social therapy. "The ready labelling of unconventional behaviour as socially deviant," according to the authors, "provides fertile soil for its redefinition as psychiatrically abnormal, a natural foundation on which the use of psychiatry for social repression can take place." The Soviet physician in his oath swears to be "guided by the principles of communist morality." This leads to the doctrine that dissent is a deviation from the normal and is therefore a manifestation of psychiatric

disease. **Pravda** in 1959 equated social deviation with insanity: the mental state of those who oppose communism is clearly not normal.

Involuntary commitment in all societies is predicated upon a person being a danger either to himself or to others. Since a dissenter in Soviet society is insane ("slow" schizophrenia in Soviet psychiatric usage), forcible hospitalization is justified on the basis that such dissenters are dangerous and must be confined to protect society. It has thus been the prevalent practice in the Soviet Union to label dissenters as mentally ill and in need of compulsory hospitalization and treatment.

Pavlov's theories have been artifically synthesized with the Marxist view that behavior is a consequence of prevailing social and economic conditions. This is the basis for the Soviet model of psychiatric treatment. Stress has been on the biological basis of mental illness with widespread use of tranquilizers and antidepressant drugs. The Soviet reliance on drugs is based upon the Pavlovian theory that normal functioning of the nervous system results from a balance of excitation and inhibition. An imbalance occurs in mental illness which is reversible by the action of these drugs on the brain. Insulin shock to produce coma (now rarely used in the West) is still widely used in Russia, and also electroshock treatment, narcotherapy, and psychosurgery.

It is to be emphasized that these treatments are used on essentially normal highly intelligent people, as dissenters characteristically are observed to be. The "treatment" is of indefinite duration or until the "patients" are broken, and are ready to confess that their dissent has been in error. They are then adjudged to have returned to a state of sanity and may be released or are ready to stand trial for crimes against the state.

The bulk of the book consists of detailed documentation of scores of cases of abuse and of the wretched physical conditions, cruelty, and blatant harassment of victims in the notorious forensic psychiatric institutions. These facilities are sordid places indeed. The behavior of the psychiatric specialists who participate in these activities is incredible and horrifying. It evokes

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memories of the Nazi medical "experiments" on Holocaust victims.

This review has emphasized the doctrine behind the abuses rather than a retelling of individual case histories. The reader is encouraged to learn this for himself by reading the book.

This large volume of 510 pages contains some 343 pages of text, the remainder being devoted to documentation in 10 appendices, extensive references, and a detailed index.

In his foreword Vladimir Bukovsky, a victim of the system and now free in the West, asks plaintively: "Who among you, if you suddenly lived in the Soviet Union, would chose freedom to be different? Would many of you be so eccentric as to want to be persecuted for the sake of an abstract honesty before your conscience?"

This excellent well-documented profoundly moving and revealing book is a fascinating work and should be read by all physicians and all others who would wish to learn more of the basically pernicious and immoral nature of Soviet communism.

Seebert J. Goldowsky, MD

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Books Received For Review

LUPUS: THE BODY AGAINST ITSELF by Sheldon Paul Blau. M.D. and Dodi Schultz. Garden City, Doubleday, 1977.

NOTHING TO FEAR: COPING WITH PHOBIAS by Fraser Kent. New York, Doubleday, 1977. $7.75.

BLOOD POLICY: ISSUES AND ALTERNATIVES edited by David B. Johnson. Washington, D.C., American Institute for Public Policy Research, 1977. $4.75.

COLLECTED PAPERS OF SIR HAROLD JEFFREYS ON GEOPHYSICS AND OTHER SCIENCES. Volume 6. Mathematics, Probability and Miscellaneous Other Sciences. Edited by Sir Harold Jeffreys and Bertha Swirles (Lady Jeffreys). New York, Gordon and Breach Science Publishers, 1977. $70.00.

BODY, MIND, BEHAVIOR by Maggie Scarf. New York, Laurel, 1977. $2.25.

DOING BETTER AND FEELING WORSE: HEALTH IN THE UNITED STATES by John H. Knowles, M.D. New York, W. W. Norton, 1977. $9.95.

OCCUPATIONAL DISEASES: A SYLLABUS OF SIGNS AND SYMPTOMS by E. R. Plunkett, M.D. Stamford, Conn., Barrett, 1977. $22.95.

The following textbooks have been received during 1977 from Lange Medical Publications, Los Altos, California:

REVIEW OF PHYSIOLOGICAL CHEMISTRY by H. A. Harper, V. W. Rodwell, P. A. Hayes. 16th Edition. $13.00.

GENERAL OPHTHALMOLOGY by D. Vaughn, T. Asbury. 8th Edition. $12.00.

HANDBOOK OF OBSTRETRICS AND GYNECOLOGY by Ralph C. Benson. 6th Edition.$9.50.

REVIEW OF MEDICAL PHYSIOLOGY by W. F. Ganong. 8th Edition. $12.00.

CURRENT SURGICAL DIAGNOSIS & TREATMENT by J. Englebert Dunphy and Lawrence W. Way. 3rd Edition. $18.00.

THE NERVOUS SYSTEM by W. F. Ganong. $8.00.

HANDBOOK OF PEDIATRICS by Henry K. Silver, C. Henry Kempe, Henry B. Bruyn. 12th Edition. $9.00.

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McIntyre Lighting of San Leandro, Calif., announces the McIntyre Hand Held Examination Light for medical uses. The light will focus a color-corrected, even light on any part of the patient. It has a two-foot retractable cord which extends to 12 feet.

Editorial: Prognosis in Malignant Melanoma

(Continued from Page 94)

thickness of the tumor appears to have the closest relationship with survival.

This editorial review encompassing reports of hundreds of cases has touched upon most of the current methods of classifying melanoma and evaluating prognosis. While there is still room for improvement in the precision of prognostic methods, a prognostic framework is now available upon which to judge results.

REFERENCES

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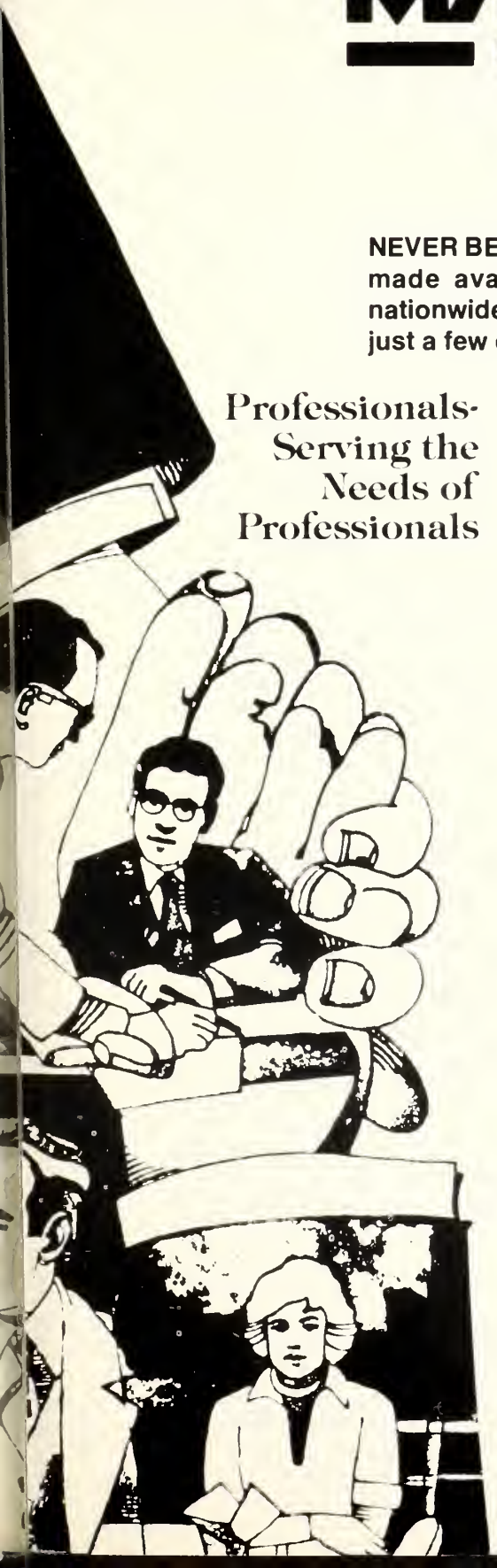

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CONTINUING MEDICAL EDUCATION CALENDAR

APRIL

14 "EXPRESSION OF SICKLE CELL DISEASE IN INFANCY," Audrey K. Brown, M.D., State University of NYC — Downstate. Pediatric Teaching Rounds, Kay Auditorium, Roger Williams General Hospital. 10:30 a.m. to 12:00 p.m.

15 "MANAGEMENT OF THE ALCOHOLIC PATIENT," Kenneth H. Williams, M.D., Associate Professor of Psychiatry and Internal Medicine, Univ. of Pittsburg School of Medicine; Director, Alcohol-Drug Abuse Clinic, Western Psychiatric Institute and Clinic, Pittsburg, Pa. Seminar 10-12 noon. AV Room, Newport Hospital.

26 SYMPOSIUM ON ARTHRITIS ENTITLED "MANAGEMENT OF COMMON RHEUMATIC DISEASES." Symposium will include lectures and workshops for the primary care physician and health care professional. Sponsored by the Brown University Program in Medicine, The Rheumatology Center of the Roger Williams General Hospital and the Rhode Island Chapter of the Arthritis Foundation. Registration 8:30 a.m. Lectures 9:00 a.m. to 4:00 p.m. Sheraton Islander, Goat Island, Newport, R.I. For further information, contact Dorothy Rosenberg 456-2069.

MAY

6 "NUCLEAR MEDICINE IN MEDICAL AND SURGICAL PRACTICE," Henry N. Wagner, M.D., Professor of Medicine, Radiology and Environmental Health, Johns Hopkins Medical School; Head, Division of Nuclear Medicine and Radiation Health, Johns Hopkins Medical Institutions. Seminar 10-12 noon. Luncheon follows at noon to 1 p.m., Pier Restaurant, Newport, Those wishing to attend this Newport Hospital Postgraduate Medical Seminar who are not members of the Newport Medical Society are welcome. However, they should call Mrs. Elizabeth Cranston, 1-401-846-6400, Ext. 445 for luncheon reservations. There is a charge of $7.00 per person for non-members.

12 "MANAGEMENT OF INCREASED INTRACRANIAL PRESSURE," Charles Barlow, M.D., Harvard Medical School. Pediatric Teaching Rounds, Kay Auditorium, Roger Williams General Hospital. 10:30 a.m. to 12:00 p.m.

JUNE

9 "THYROID DISEASE IN CHILDREN," Robert M. Blizzard, M.D., University of Virginia Medical School. Pediatric Teaching Rounds, Kay Auditorium, Roger Williams General Hospital. 10:30 a.m. to 12:00 p.m.

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A Message From The Dean

INTERNSHIPS OBTAINED BY THE BROWN UNIVERSITY MEDICAL STUDENTS, CLASS OF

Close to 15,000 senior medical students who are about to graduate from the medical schools of the United States have recently participated in a nationwide selection mechanism (National Intern and Resident Matching Program) which assigns each matched applicant to an internship for the year beginning July, 1978. While the number of medical graduates competing for internships has increased, the number of accredited internships has actually diminished. There is therefore increasing concern about placement in general, and considerable competition for the limited number of internships, particularly in internal medicine and family medicine, situated in the more prestigious medical centers of the United States.

The internship assignments for the 63 Brown University medical seniors are summarized below. Medical school affiliation of each hospital is indicated in parentheses.

California (3)
- Cedars-Sinai Medical Center (UCLA) —2
- University Hospital (UCLA) — 1

District of Columbia (1)
- Providence Hospital (Georgetown) —1

Florida (1)
- University Hospital (Miami) — 1

Georgia (1)
- Grady Memorial Hospital (Emory) —1

Illinois (3)
- Childrens Hospital (Northwestern) — 1
- Presbyterian-St. Lukes (Rush) — 1
- University Hospital (Northwestern) — 1

Maine (2)
- Maine Medical Center (Tufts) — 2

Massachusetts (5)
- Berkshire Medical Center (Massachusetts) — 1
- Mount Auburn Hospital (Harvard) — 2
- New England Center Hospital (Tufts) — 1
- University Hospital (Boston) — 1

Minnesota (2)
- Mayo Graduate School (Mayo) — 1
- University Hospital (Minnesota) — 1

Missouri (3)
- Barnes Hospital (Washington U.) — 1
- St. Louis Childrens Hospital (Washington U.) — 1
- Washington University Hospitals (Washington U.) — 1

New Jersey (1)
- Overlook Hospital (Columbia, Rutgers) — 1

New York (17)
- Albany Hospital (Albany) — 2
- Beth Israel Hospital (Mt. Sinai) — 2
- Bronx Municipal Hospital (Einstein) — 1
- Long Island Jewish Hospital (State Univ., Stony Brook) — 1
- E. J. Meyer Memorial Hospital (State Univ., Buffalo) — 2
- Montefiore Hospital (Einstein) — 1
- Mt. Sinai Hospital (Mt. Sinai) — 1

New York Hospital (Cornell) — 1
St. Joseph's Hospital (State Univ., Syracuse) — 1
Strong Memorial Hospital (Rochester) — 1
University Rochester Hospitals (Rochester) — 3
Columbia-Presbyterian Medical Center (Columbia) — 1

North Carolina (1)
North Carolina Memorial Hospital (N. Carolina) — 1

Ohio (1)
Cincinnati General Hospital (Cincinnati) — 1

Pennsylvania (4)
Childrens Hospital (Pennsylvania) — 1
Medical College of Pennsylvania (Med. Coll. Penn.) — 2
University Hospital (Temple) — 1

Rhode Island (13)
Memorial Hospital (Brown) — 2
Miriam Hospital (Brown) — 2
Rhode Island Hospital (Brown) — 4
Roger Williams General Hospital (Brown) — 4
Women and Infants Hospital (Brown) — 1

South Carolina (1)
Medical Center Hospital (South Carolina) — 1

Virginia (1)
University Hospital (Virginia) — 1

Washington (1)
University Hospital (Washington) — 1

West Virginia (2)
United Hospital Center — 2

The distribution of internships, by specialty, for all four medical school classes which have graduated from Brown, is indicated below:

Specialty	Graduating Class of: 1975	1976	1977	1978
Internal Medicine	27	33	24	33
Family Medicine	4	4	12	9
Pediatrics	11	7	3	11
Surgery	10	5	13	6
Psychiatry	1	1	3	1
Obstretics & gynecology	2	3	2	3
Other	3	7	3	0
Total graduates	58	60	60	63

Internships	Graduating class of: 1975	1976	1977	1978
Internships: number of different hospitals	31	42	47	45
Internships: number of different states (andD.C.)	13	18	21	19

About 85% of the graduating class of 1978 have successfully applied for internships in primary care medicine (i.e. internal medicine, family medicine, pediatrics). This is somewhat higher than the two-thirds average which characterized the three preceding medical classes. It is presently difficult to say how many people will be entering family medicine since some individualselect a trainmedicine since some individuals elect a training program combining internal medicine and pediatrics as a prelude to their ultimate entrance into family medicine.

The regional distribution of these internships is summarized in the table below. The hospitals of this state continue to attract over one-fifth of our graduates (cumulatively, in the four graduating classes, 66 of 241 graduates have elected internships locally, representing about 27% of our total pool of medical graduates).

Internships Obtained by Brown Graduates: Regional Distribution, classes of 1975-78.

	Graduating class of: 1975	1976	1977	1978
Rhode Island	26	17	10	13
New England, other	7	12	8	7
Middle Atlantic States	14	9	25	23
South	0	3	3	7
Mid-West	6	8	7	9
Southwest	0	0	1	0
West	5	11	6	4
	58	60	60	63

The roster of hospitals where the 241 medical graduates of Brown are now in training is truly impressive both in geographic diversity and stature of the individual institutions. The appointments awarded to our graduates are now comparable to the appointments awarded the graduates of any of the more established New England schools of medicine.

Stanley M. Aronson, M.D.
Dean of Medicine
Brown University

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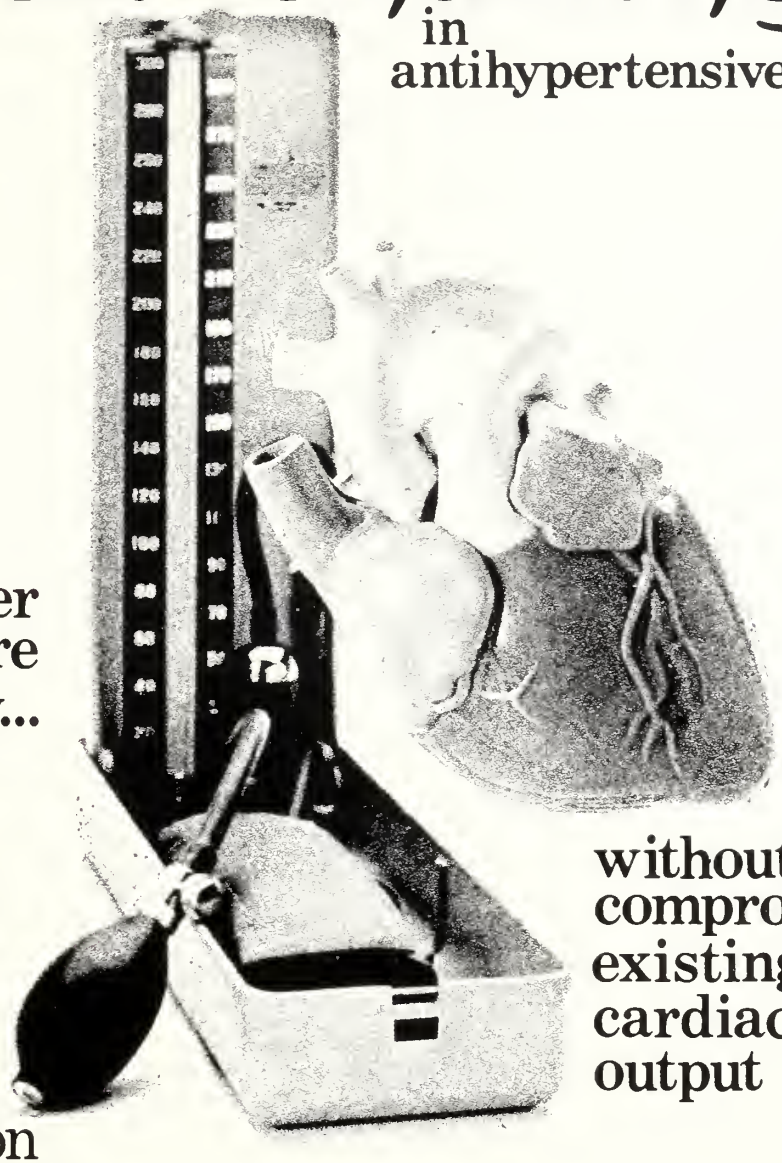

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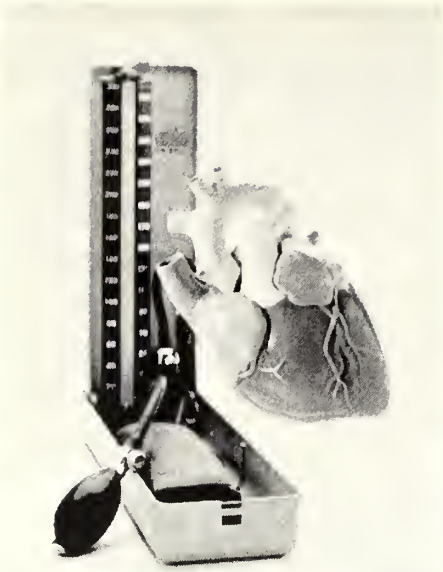

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Warnings: It is important to recognize that a positive Coombs test, hemolytic anemia, and liver disorders may occur with methyldopa therapy. The rare occurrences of hemolytic anemia or liver disorders could lead to potentially fatal complications unless properly recognized and managed. Read this section carefully to understand these reactions.

With prolonged methyldopa therapy, 10% to 20% of patients develop a positive direct Coombs test, usually between 6 and 12 months of therapy Lowest incidence is at daily dosage of 1 g or less. This on rare occasions may be associated with hemolytic anemia, which could lead to potentially fatal complications. One cannot predict which patients with a positive direct Coombs test may develop hemolytic anemia. Prior existence or development of a positive direct Coombs test is not in itself a contraindication to use of methyldopa. If a positive Coombs test develops during methyldopa therapy, determine whether hemolytic anemia exists and whether the positive Coombs test may be a problem. For example, in addition to a positive direct Coombs test there is less often a positive indirect Coombs test which may interfere with cross matching of blood.

At the start of methyldopa therapy, it is desirable to do a blood count (hematocrit, hemoglobin, or red cell count) for a baseline or to establish whether there is anemia. Periodic blood counts should be done during therapy to detect hemolytic anemia. It may be useful to do a direct Coombs test before therapy and at 6 and 12 months after the start of therapy. If Coombs-positive hemolytic anemia occurs, the cause may be methyldopa and the drug should be discontinued. Usually the anemia remits promptly. If not, corticosteroids may be given and other causes of anemia should be considered. If the hemolytic anemia is related to methyldopa, the drug should not be reinstituted. When methyldopa causes Coombs positivity alone or with hemolytic anemia, the red cell is usually coated with gamma globulin of the IgG (gamma G) class only. The positive Coombs test may not revert to normal until weeks to months after methyldopa is stopped.

Should the need for transfusion arise in a patient receiving methyldopa, both a direct and an indirect Coombs test should be performed on his blood. In the absence of hemolytic anemia, usually only the direct Coombs test will be positive. A positive direct Coombs test alone will not interfere with typing or cross matching. If the indirect Coombs test is also positive, problems may arise in the major cross match and the assistance of a hematologist or transfusion expert will be needed.

Fever has occurred within first 3 weeks of therapy, occasionally with eosinophilia or abnormalities in liver function tests, such as serum alkaline phosphatase, serum transaminases (SGOT, SGPT), bilirubin, cephalin cholesterol flocculation, prothrombin time, and bromsulphalein retention. Jaundice, with or without fever, may occur, with onset usually in the first 2 to 3 months of therapy. In some patients the findings are consistent with those of cholestasis. Rarely fatal hepatic necrosis has been reported. These hepatic changes may represent hypersensitivity reactions; periodic determination of hepatic function should be done particularly during the first 6 to 12 weeks of therapy or whenever an unexplained fever occurs. If fever and abnormalities in liver function tests or jaundice appear, stop therapy with methyldopa. If caused by methyldopa, the temperature and abnormalities in liver function characteristically have reverted to normal when the drug was discontinued. Methyldopa should not be reinstituted in such patients.

Rarely, a reversible reduction of the white blood cell count with primary effect on granulocytes has been seen. Reversible thrombocytopenia has occurred rarely. When used with other antihypertensive drugs, potentiation of antihypertensive effect may occur. Patients should be followed carefully to detect side reactions or unusual manifestations of drug idiosyncrasy.

Pregnancy and Nursing: Use of any drug in women who are or may become pregnant or intend to nurse requires that anticipated benefits be weighed against possible risks; possibility of fetal injury or injury to a nursing infant cannot be excluded. Methyldopa crosses the placental barrier, appears in cord blood, and appears in breast milk.

Precautions: Should be used with caution in patients with history of previous liver disease or dysfunction (see Warnings). May interfere with measurement of: urinary uric acid by the phosphotungstate method; serum creatinine by the alkaline picrate method; and SGOT by colorimetric methods. Since methyldopa causes fluorescence in urine samples at the same wavelengths as catecholamines, falsely high levels of urinary catecholamines may be reported. This will interfere with the diagnosis of pheochromocytoma. It is important to recognize this phenomenon before a patient with a possible pheochromocytoma is subjected to surgery. Methyldopa is not recommended for patients with pheochromocytoma. Urine exposed to air after voiding may darken because of breakdown of methyldopa or its metabolites.

Stop drug if involuntary choreoathetotic movements occur in patients with severe bilateral cerebrovascular disease. Patients may require reduced doses c anesthetics; hypotension occurring during anesthesi usually can be controlled with vasopressors. Hyper tension has recurred after dialysis in patients o methyldopa because the drug is removed by thi procedure.

Adverse Reactions: *Central nervous system:* Seda tion, headache, asthenia or weakness, usually earl and transient, dizziness, lightheadedness, symptom of cerebrovascular insufficiency, paresthesias, parkin sonism, Bell's palsy, decreased mental acuity, involun tary choreoathetotic movements; psychic distur bances, including nightmares and reversible mil psychoses or depression.

Cardiovascular: Bradycardia, aggravation of angin pectoris. Orthostatic hypotension (decrease dail dosage). Edema (and weight gain) usually relieved b use of a diuretic. (Discontinue methyldopa if edem progresses or signs of heart failure appear.)

Gastrointestinal: Nausea, vomiting, distention, con stipation, flatus, diarrhea, mild dryness of mouth, sor or "black" tongue, pancreatitis, sialadenitis.

Hepatic: Abnormal liver function tests, jaundice, live disorders.

Hematologic: Positive Coombs test, hemolytic anemia Leukopenia, granulocytopenia, thrombocytopenia Positive tests for antinuclear antibody, LE cells, an rheumatoid factor.

Allergic: Drug-related fever, lupus-like syndrome myocarditis.

Other: Nasal stuffiness, rise in BUN, breast enlarge ment, gynecomastia, lactation, impotence, decrease libido, dermatologic reactions including eczema an lichenoid eruptions, mild arthralgia, myalgia.

Note: Initial adult dosage should be limited to 500 m daily when given with antihypertensives other tha thiazides. Tolerance may occur, usually between sec ond and third months of therapy; increased dosage c adding a diuretic frequently restores effective contro Patients with impaired renal function may respond t smaller doses. Syncope in older patients may be re lated to increased sensitivity and advanced ar teriosclerotic vascular disease; this may be avoide by lower doses.

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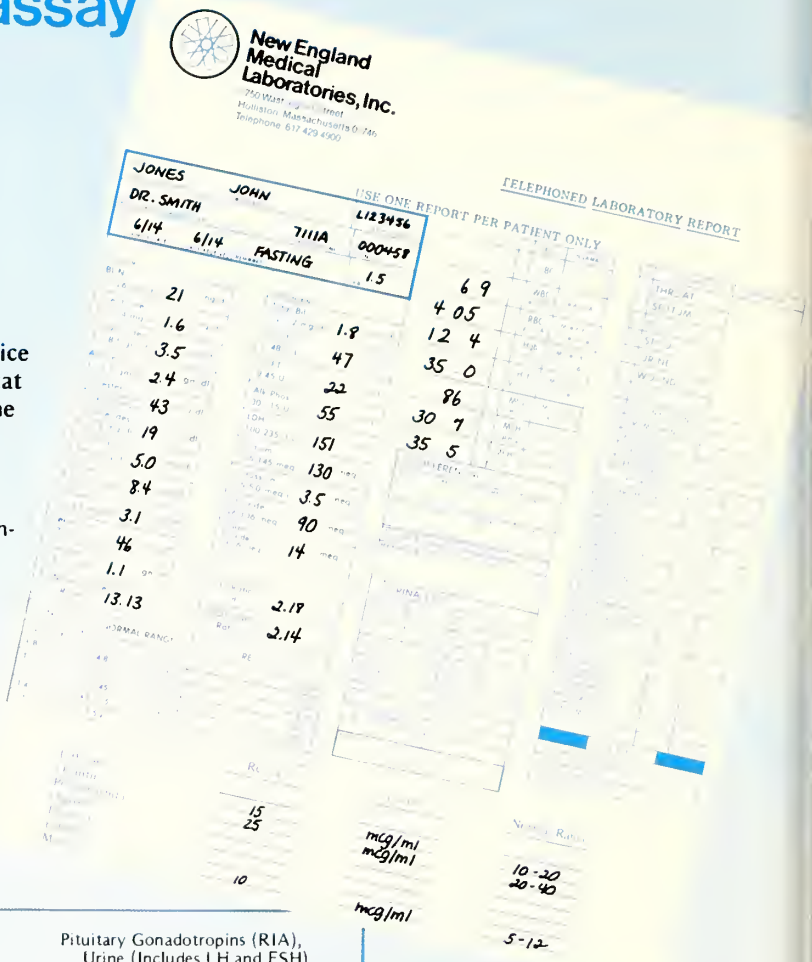

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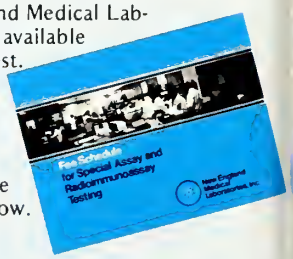

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Angioimmunoblastic Lymphadenopathy: A Prospectively Studied Case With Therapeutic Implications

Unusual Disorder Appears To Respond To Corticosteroid Administration

By Kathleen A. Caizzi, M.D.
Richard P. D'Amico, M.D.
Robert E. Knisley, M.D.

Angioimmunoblastic lymphadenopathy with dysproteinemia (AILD) or immunoblastic lymphadenopathy (IBL) are terms coined for a distinct clinical and histologic entity which has been recognized within the past few years. Frizzera, Moran, and Rappaport [1,2] described a group of non-neoplastic lymphoma-like diseases which had been previously diagnosed as Hodgkin's disease or malignant lymphoma. Likewise, Lukes and Tindle [3] described cases retrospectively studied which presented in a similar fashion. These studies demonstrated that this entity generally presented in the eldery with the acute onset of fever, malaise, and weight loss. All patients had generalized lymphadenopathy, anemia, and a diffuse polyclonal gammopathy. Histologic evaluation of lymph node biopsies indicated a classical triad of prominent proliferation of immunoblasts, plasma cells, and lymphocytes, and abundance of small arborizing vessels lined by prominent numbers of endothelial cells, and pronounced deposition of acidophilic, amorphous interstitial material. Recognition of this entity is important for pathologists, as well as clinicians, because of implications relating to diagnosis, prognosis, and therapy.

The following case report demonstrates well the clinical and pathologic features associated with AILD. More importantly, it supports the retrospective observation that corticosteroid therapy may induce effective remissions without the inherent complications of cytotoxic chemotherapy.

From the Department of Medicine, Rhode Island Hospital and the Division of Biology and Medicine, Brown University, Providence, Rhode Island.

CASE REPORT

V.M., a seventy year old white male, presented in December of 1975, with a two week history of fever, chills, anorexia, maculopapular rash, and a 5.2 kg weight loss. Prior to the onset of these symptoms, the patient was in good health and denied any recent illness or drug ingestion. The past medical history was unremarkable except for childhood eczema and an allergy to penicillin.

On admission the patient was acutely ill with a temperature to 40°C. Pertinent physical findings included a fine

maculopapular rash, and multiple 1 cm nontender, cervical, axillary, and inguinal lymph nodes. The liver edge was palpable 3 cm below the right costal margin, and the spleen was palpable 4 cm below the left costal margin.

The blood count indicated a hemoglobin of 11.2 gm per cent, hematocrit of 33 per cent, and a leukocyte count of 5200/mm^3 with 69 per cent polymorphonuclear leukocytes, 17 per cent lymphocytes, and 14 per cent monocytes. The platelet count was 58,000/mm^3 and reticulocyte count less than 1 per cent. Liver function tests included an SGOT of 43 U, LDH of 1228U, and an alkaline phosphatase of 16U. The Westergren erythrocyte sedimentation rate was 50mm/hr. The total protein was 7.2 gm/100 ml, with an albumin of 3.5 gm/100 ml. A serum protein electrophoresis pattern demonstrated a polyclonal increase in gamma-globulins. Specific immunoglobulin assay showed an IgG of 2000 mg/100ml, IgA of 250 mg/100ml, and IgM of 440 mg/100ml, (See Table I). Liver-spleen scan indicated enlargement of both organs with diffuse uptake and without focal defects. The initial bone marrow aspirate produced a dry tap. A biopsy specimen from the posterior iliac crest demonstrated marked hypercellularity with normal maturation of the erythrocytic and granulocytic series. Megakaryocytes were present in normal numbers, and areas of moderate ossinophilia and lymphocytic infiltration were noted.

A cervical lymph node was biopsied, and on microscopic examination the capsule was intact. There was, however, marked effacement of lymph node architecture with cellular and vascular proliferation, and only a few remnants of lymph follicles (Fig I). The infiltrating cells consisted of lymphocytes, plasma cells, and atypical large cells with vesicular nucleoli which were interpreted as immunoblasts. The blood vessels showed proliferation with a lining of plymp endothelial cells (Fig II). Reed-Sternberg or tumor cells were not seen and the histologic diagnosis was consistent with immunoblastic lymphadenopathy.

CLINICAL COURSE

The patient continued to have fever to levels of 40°C through the first fourteen days of his hospitalization. All cultures including multiple blood cultures were reported to be negative. A hemolytic anemia developed with the hemoglobin falling to 6.60 gm per cent. At the same time the direct and indirect Coomb's test became positive, and the haptoglobin levels were low. On the fifteenth hospital day five units of packed red blood cells were adminstered, and corticosteroid therapy was initiated at 40 mg of prednisone daily. This was followed by a gradual but steady clinical improvement, and the patient became afebrile within one week. He was discharged from the hospital fourteen days after the start of corticosteroid therapy.

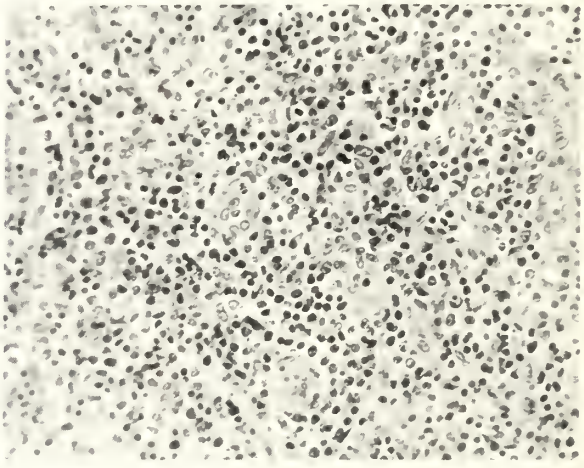

Figure I. Lymph Node. Low power view showing extensive alteration of architecture with cellular and vascular proliferation. Hematoxylin and eosin stain; original magnification x 20.

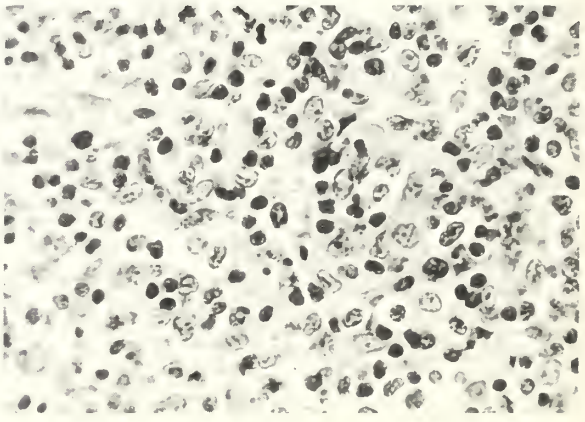

Figure II. Lymph node. High power view showing the pleomorphic infiltrate composed of lymphocytes, plasma cells, and immunoblasts, with vascular proliferation and acidophilic deposition. Hematoxylin and eosin stain; original magnification x 400.

On follow-up evaluation he remained afebrile, and there was a gradual regression of all palpable lymphadenopathy as well as the hepatosplenomegaly. Laboratory studies indicated a reticulocyte response of 2-4 per cent and a progressive rise of the hemoglobin to a normal level. The Coomb's test became negative along with a normal haptoglobin level. The repeat serum protein electrophoresis and immunoglobulin levels were also normal (See Table I). Our patient has been followed for over fourteen months. The initial dose of prednisone was maintained for three months, and then has been gradually tapered to a maintenance dose of 10 mg/day.

TABLE I

	12/18/75	12/31/75	2/6/76	3/11/76	2/8/77
Hemoglobin gm.%	11	6.6+*	10.1	13	13.8
Hematocrit %	33	20	31	41	44
WBC	5200	4300	6000	8700	7500
Platelet count x10³	58	40	150	160	167
Reticulocyte	0.1	0.1	4.0	2.6	2.0
SGOT	43	46	19	21	20
LDH	1028	1428	421	139	174
Alkaline phosphatase	16	20	9	12	8
Total protein	7.2	7.2	6.7	6.5	7.3
Albumin	3.9	3.8	4.3	4.2	3.7
IgG (nl 710-1540)	2000	2400	1260	1210	1220
IgM (nl 37-240)	440	440	230	200	148
IgA (nl 60-490)	250	2010	270	200	170
Coomb's D/I	-/-	++/+	-/-	-/-	-/-
Haptoglobin	—	20	84	80	68

*Five units of packed red blood cells were administered.
+Prednisone therapy at 40 mg./day was instituted.

DISCUSSION

The study published by Frizzera et al in 1975 consisted of patients seen in consultative services over a period of ten years. Retrospective evaluation of biopsy material previously diagnosed as atypical Hodgkin's disease or malignant lymphoma revealed common pathologic presentations. Kalus [4] recently summarized the major distinguishing factors between these malignant processes and AILD. These included: 1. The absence of Reed-Sternberg cells. Atypical large binucleated cells with basophilic nucleoli seen uniformally in Hodgkin's Disease. 2. The effacement of lymph node architecture with preservation of a few lymph follicles as opposed to the alterations commonly seen in Hodgkin's Disease or malignant lymphoma. 3. The extensive aborization of hyperplastic capillaries with plump endothelial lining seen uniformally in AILD and rarely noted in lymphomas. 4. The prominent proliferation of a spectrum of cells including plasma cells and lymphocytes rather than the uniform cellularity usually seen in the other lymphomatous neoplastic processes.[3] In addition, AILD shows a diffuse polyclonal hypergammopathy as opposed to the hypogammopathy or monoclonal gammopathy seen in lymphomatous malignant disorders.

Through retrospective evaluation of their therapy and clinical course Frizzera, et al[2], were able to divide their patients into several groups on the basis of survival and therapy. The majority of the elderly who received chemotherapy died following episodes of neutropenia and sepsis. The younger age group was able to tolerate cytotoxic agents and tended to remain in remission at the time of the analysis. A third group of patients do well on a short course of corticosteroids only to relapse within months of cessation of therapy.

From the clinical and histologic observations to date, AILD (or IBL) seems to represent an entity in which remissions may occur, and which can be distinguished from the usual malignant lymphoproliferative disorders. More important is the observation that chemotherapy has not proved to be any more effective than corticosteroid therapy. In addition, chemotherapy seems to be less well tolerated in the elderly, and the long-term effect of cytotoxic drugs in the younger age group are of significant concern.

Our patient had a dramatic clinical improvement following the use of corticosteroids, and was spared the effects of cytotoxic chemotherapy. Since spontaneous remissions have been reported in AILD, it is difficult to ascertain the exact role of steroids in his clinical course. Rather, we can state that the improvement noted initially following the institution of corticosteroid therapy and the complete remission for fourteen months on a maintenance dose of steroids suggests a beneficial effect.

This case represents a prospective study of a patient placed on corticosteroid therapy following the diagnosis of AILD with a complete clinical remission. Further study of a significant number of patients with AILD will be needed to evaluate the natural history of this disorder and the benefits of various therapeutic modalities. The optimal duration of maintenance therapy remains uncertain. We feel, however, that the optimal approach to this entity at this time is conservative management and the use of corticosteroids.

SUMMARY

A seventy year old white male presented with fever, rash, weight loss, lymphadenopathy and hepatosplenomegaly. Histologic evaluation of a cervical lymph node biopsy was interpreted as angioimmunoblastic lymphadenopathy. Laboratory examination indicated a polyclonal gammopathy and a Coomb's positive hemolytic anemia. Clinical and laboratory improvement ensued following the institution of corticosteroids. The patient has remained in a complete clinical and hematologic remission on a maintenance dose of corticosteroids for fourteen months.

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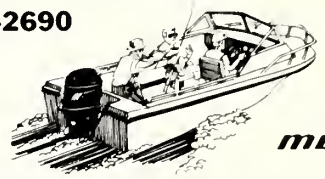

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The Present Status Of Diabetic Retinopathy In Rhode Island

Careful Screening For Early Detection Of Retinopathy Is Critical In Management Of Diabetic Patients

By Charles B. Kahn, M.D.

Major advances have been made in the diagnosis and management of diabetic retinopathy in the past two decades. A recent account of these advances appeared, not in the medical literature, but in a misleading and controversial newspaper article in the December 2, 1976, issue of *The Evening Bulletin*, Providence, Rhode Island. It seems, therefore, appropriate to evaluate the present status of diabetic retinopathy in general and its treatment more particularly as it applies to the Rhode Island medical community.

There are about four million diabetics in the United States, and overall 38 per cent have some form of retinopathy. In juvenile diabetics over 90 per cent will have retinopathy after thirty years. Diabetes is the most common cause of new blindness in the United States and Great Britain. There are over thirty thousand cases of blindness reported in the United States annually of which forty-four hundred are due to diabetes. The impact of diabetic retinopathy is therefore substantial. Photocoagulation therapy has recently been introduced and may be a major advance in the treatment of retinopathy. [1-4]

CHARLES B. KAHN, M.D., *Practitioner in Diabetes and Endocrinology.*

TYPES OF RETINOPATHY

Diabetic retinopathy can be divided into two types — background (nonproliferative) or proliferative. Background retinopathy includes microaneurysm in its earliest form, followed by intraretinal hemorrhages, waxy or hard exudates, and cotton-wool or soft exudates. Macular edema and alterations in the vascular pattern, such as arteriolar tortuosity and venular dilation, also occur.

Fluorescein angiography has become an essential diagnostic tool in evaluating retinopathy.[1] [2] Angiography demonstrates microaneurysms not seen with the ophthalmoscope. Leakage can be seen from capillary vessels into unsuspected areas, into areas of obvious retinal edema, and into areas of hard exudates. Also more clearly demonstrated by angiography are the avascular areas.

Proliferative retinopathy is comprised of the development of new vessels (neovascular changes) and of fibrous or glial tissue. These can be located on the disk or found elsewhere in the retina and may extend off the retina into the vitreous space. Rupture of retinal or preretinal vessels can result in vitreous hemorrhage and scar formation if resolution does not take place. Traction on these vitreous adhesions can then result in a retinal detachment. Fluorescein angiography is less

useful in further delineating proliferative retinopathy, since the changes are so much more obvious by ophthalmoscopy. The clearer definition of the involvement of disk neovascularization, however, can be made by angiography.

PATHOGENESIS

It is the general feeling that retinopathy develops as a consequence of hypoxia. [1 4] Increased platelet adhesiveness, intravascular microthrombi, changes in blood flow, reduced erythrocyte distensability, restricted oxygen release of the erythrocyte (reduced 2,3-DPG, or increased Al-c hemoglobin), thickened capillary basement membranes, segmental capillary closure, opening of arteriovenous shunts, and possibly fat emboli lead to a "generalized ischemic process". [1 4] As the pericytes die, microaneurysms form, and, as the capillary wall weakens, intraretinal hemorrhages and leakage (hard exudates and edema) occur. Soft exudates represent microvascular infarction in the inner nerve fiber layer and may be more closely related to hypertension than to the diabetes. Due to the ischemic process neovascular changes develop and usually progressively worsen. Fibrous (glial) changes can develop either as a residual scar from a hemorrhage or possibly as a primary consequence of the ischemic process. Vasoformative or vasoproliferative factors have been suspected as humoral agents released under the stimulus of hypoxia, but such factors have yet to be delineated.[5] The controversy continues over whether these pathogenetic mechanisms are primarily genetic or are acquired through the metabolic abnormalities of diabetes mellitus. Much data are accumulating that the latter is the major factor. Hyperglycemia per se, lipid abnormalities, and abnormalities in growth hormone metabolism have been considered to be the most significant metabolic changes. The reader is referred to Keen and Jarrett's text on "Complications of Diabetes" for a more complete discussion of this matter.[6] Recently an interesting but unsubstantiated immunogenic etiology related more directly to parenteral insulin administration has been postulated for optic nerve neovascularization.

TREATMENT

General principles of treatment of diabetic retinopathy have included good diabetic control and management of hypertension.[1] Multiple other programs, including Vitamin B 12, anticoagulants, anabolic steroids, testosterone, estrogens, B-hydroxyrutoside, adrenogens, and even ocular irradiation, have been tried with uniform lack of success.[1 2] Clofibrate-S, low fat diets, salicylates, and para-aminosalicylic acid have shown some promise in reducing hard exudates, but so far yield limited improvement in visual acuity.[2]

Hypophysectomy has been accepted as a proven method of stabilizing or improving severe proliferative retinopathy in about one-half the cases. [2 4 8] However, because of the magnitude of the treatment, the usefulness of hypophysectomy was always limited and has now been supplanted by photocoagulation therapy. Photocoagulation therapy for diabetic retinopathy has become one of the most exciting developments in therapeutic medicine.

Xenon arc (not laser) photocoagulation was developed in the late 1950s by Meyer-Schwickerath and subsequently was followed by ruby and then argon laser photocoagulation. [1] The first experience with laser photocoagulation in Rhode Island was reported in this *Journal* in 1972.[9]

Xenon arc photocoagulation emits polychromatic light (white light-all wave lengths) which is absorbed into the pigmented retinal epithelial layer and produces heat, tissue destruction, and scarring. The laser photocoagulators emit single colored parallel light rays (ruby-red 6943Å wave length and argon-green 4880 and 4145Å wave lengths) which are more effectively absorbed into the pigmented epithelial layer and in the case of the argon laser absorbed more effectively by the red color of erythrocytes.[1 2 10] The laser photocoagulators have considerable advantage, such as better absorption, less energy, sharper focus, smaller burn-size, and ease of use on patients over the xenon arc type. [2 10] The argon laser is becoming the instrument most commonly used.

The overall purpose of photocoagulation, commensurate with the theories of the pathogenesis of diabetic retinopathy, is to reduce the metabolic requirements of the retina by tissue destruction. This may occur simply by the net loss of tissue (approximately one-seventh) or perhaps by improved

diffusion of oxygen and nutrients from the deeper choroidal circulation to the more superficial retinal tissue. [1 11]

Considerable evidence has suggested that photocoagulation is a valuable form of therapy in treating diabetic retinopathy. Several reviews are available.[1-4 10] The most meaningful data have been provided by the Diabetic Retinopathy Study Research Group in "The Preliminary Report on the Effects of Photocoagulation Therapy."[12] This was a randomized study begun in 1971 and carried out at fifteen centers around the country in over 1700 diabetics. The criteria upon which the treated eye was randomly selected required: (1) that the media were clear (no cataracts, vitreous hemorrhage) to the retina, (2) that there was bilateral retinopathy with neovascular proliferation in at least one eye or severe nonproliferative retinopathy in both, and (3) that visual acuity had to be better than 20/100 in both eyes. Terms such as NVD (new vessels disk) and NVE (new vessels elsewhere), as well as a grading system comparing new vessel size to disk diameters or in comparison to a standard slide, called "slide 10A," were developed for this study. The xenon arc and argon laser photocoagulators were used. Both treatment techniques included extensive "scatter" photocoagulation ("panretinal photocoagulation," "retinal ablation") and focal treatment of new vesels on the surface of the retina.

The results of this study are most striking. The overall occurrence of severe visual loss (less than 5/200) at the end of two years was reduced from 16.3 per cent in all untreated eyes to 6.4 per cent in all treated eyes, a change of 61 per cent.[12] These data provide substantial evidence that photocoagulation therapy should be made available to the general population. Cures were not the end-point, but substantial stabilization of vision or major delay in deterioration appear to be realistic achievements. The study did not make an important distinction between xenon arc and argon laser photocoagulation. Further experience will be required to determine which type of photocoagulation may be best for various types of retinopathy.

The criteria used for patient selection at present in Rhode Island should for the most part follow those of the Retinopathy Study Research Group as recently adjusted. The criteria have been amended because of the apparent success of the study. Therapy can now be applied to any eye with moderate or severe new vessel development on or within 1-disk diameter of the optic disk if fresh hemorrhage is present or moderate or severe new vessels elsewhere if fresh hemorrhage is present.[12] These recent adjustments allow for greater individualization of therapy. Several Rhode Island ophthalmologists have been using laser photocoagulation and in general follow these criteria for selection. Cataract extraction or possibly microsurgical vitrectomy have allowed many patients to become candidates for photocoagulation therapy by the clarification of the ocular media.

Early treatment clearly seems best. Prognosis is worsened by the presence of disk new vessels, fresh hemorrhage, macular edema, systemic hypertension, or renal failure and is improved by new vessels present only away from the disk or retinopathy without neovascular disease.[12]

The complications of photocoagulation therapy especially laser therapy are surprisingly few, but retinal detachment, hemorrhage, macular burns, macular edema, small losses of visual acuity, small losses in visual fields, and retinal vein or artery occlusion can occur. [10 12 13]

It appears to be established that panretinal and focal photocoagulation are of value in preserving vision in the more serious forms of diabetic retinopathy. Careful screening of diabetic patients and early detection of retinopathy are critical in the overall management of these patients so that in concert with the ophthalmologist patients can be selected early for photocoagulation therapy. Photocoagulation therapy, possibly combined with cataract surgery, vitrectomy, or both should, therefore, improve the overall prognosis for vision and the quality of life for the diabetic patient.

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Screening Of DES-Exposed Women In Rhode Island, 1974-1977

We Must Continue To Identify Those Young Women Who Were Exposed And Follow Them Periodically

By Donald D. Edinger, Jr., M.D.

In 1971 the link between the ingestion by pregnant women of diethylstilbestrol (DES) and the subsequent occurrence of clear-cell adenocarcinoma (CCA) of the cervix and vagina in their exposed female offspring was reported by Herbst et al.[1] Their initial report was soon supported by others in the literature linking the maternal ingestion of steroidal and non-steroidal estrogens to a noteworthy increase in CCA in the progeny of mothers so treated. Since 1971 the medical profession has assumed the Herculean task of identifying the group of young women, estimated at between 500,000 and 2,000,000, exposed to DES and related steroidal and non-steroidal estrogens during gestation, who are allegedly at risk for the development of CCA, and evaluating these individuals at regular intervals by various techniques.

The Registry of Clear-Cell Adenocacinoma of the Genital Tract in Young Females, begun by Doctors Herbst and Scully, contains at this time more than 350 cases of CCA of vaginal or cervical origin.[2] Since its inception, several Registry publications analyzing the case data have appeared in the literature and will not here be reviewed.

Unlike other gynecologic malignancies, there has been to date no recognizable preinvasive or *in situ* state for adenocarcinoma of the clear-cell type. It is well known that the occurrence of vaginal adenosis is quite rare in young women not exposed *in utero* to DES and its related compounds. A recent review of the Registry cases have shown that invasive CCA has been found in association with benign vaginal or cervical adenosis in nearly 95 per cent of the cases.[2] A typical adenosis has therefore been suggested by some clinicians as a precursor lesion or pre-invasive form of CCA.

It is beyond the scope of this paper to review extensively the current literature on DES, Adenosis and CCA. Rather, its intent

DONALD D. EDINGER, JR., M.D., *formerly Resident and Chief Resident, Gynecology and Obstetrics, Women and Infants Hospital of Rhode Island and the Rhode Island Hospital; currently Assistant Professor of Gynecology and Obstetrics, Tufts University School of Medicine and Clinical Fellow in Gynecologic Oncology, New England Medical Center Hospitals, Boston, Massachusetts.*

is to provide an answer to a question posed by Rhode Island practitioners to their gynecologic colleagues: What is being observed in Rhode Island's population of DES-exposed daughters?

MATERIALS AND METHODS

The case records of 74 patients comprising 117 visits to the Special Gynecologic (Colposcopy) Clinic from June 1974 to March 1977 at the Women and Infants Hospital of Rhode Island were reviewed. Data on age, gravidity, parity and cytologic screening were collected. DES history was documented when possible by contact with the referring physician or by interview with the mothers of the patients being evaluated. The gross impressions, colposcopic findings, and histologic evaluation when performed were then recorded from chart review.

RESULTS

Our patients ranged in age from 14 to 27 years. The distribution of the various ages is shown in Table I. With respect to gravidity and parity, 58 of 74 patients were nulligravidas, 12 primagravidas, and 4 multigravidas. The majority of the patient population was nulliparous (66 of 74), with only eight patients having parity of one or more.

Cytologic screening data are shown in Table II. Atypical Papanicolaou smears (Class III or greater) were found in 10.9 per cent of those patients screened, with 89.1 per cent of this population showing normal or inflammatory cytology.

TABLE I

Age in Years	Number of Patients
14	1
16	4
17	4
18	5
19	10
20	11
21	11
22	9
23	7
24	2
25	5
26	2
27	3
	—
	TOTAL 74

TABLE II

Cytologic Screening in DES-Exposed Population(N=74)

Pap Smear Class	Number of Patients
Class I (cytologically negative)	46 (62.2%)
Class II ("atypical-benign," inflamatory changes noted)	20 (27.0%)
Class III (atypia suggestive of intraepithelial neoplasia, "dysplasia")	7 (9.4%)
Class IV (suggestive of severe CIN, "carcinoma-in-situ.")	1 (1.4%)

DES or related estrogen history was ascertained in 49 of the 74 patients and suggested but not ascertained in 24 additional patients. One patient had been referred for colposcopic evaluation for "gross changes of the cervix compatible with DES exposure," although her mother specifically gave a negative history of drug ingestion during her pregnancy.

The findings on gross inspection of the cervix and vagina are presented in Table III. Negative examinations were encountered in 8.1 percent of the patients. The most frequently described finding was the cervical "hood" or "collar", with the so-called "pseudopolypoid" cervix as the second most frequently encountered. Erythroplakia, puristically a colposcopic term, is employed herein to encompass both erosion and eversion (ectopy, ectropion) as a "red lesion", visible to the naked eye, and was encountered in 31.1 per cent of patients. Adenosis was described as a gross finding in 21.6 per cent of the population screened.

Colposcopic impressions are found in Table IV. Colposcopic examination was

TABLE III

Summary of Findings on Gross Examination of the Cervix and Vagina in DES-Exposed Patient Population

Lesion	Number	Percent
None present (negative examination)	6	8.1%
Cervical "hood" or "collar"	31	41.9%
Cervical "pseudopolyp"	28	37.8%
Erythroplakia including "erosion," "eversion," "ectopy," and "ectropion"	23	31.1%
Vaginal adenosis	16	21.6%
Cervical "cock's comb"	15	20.3%
Transverse vaginal septae	2	2.7%

TABLE IV

Colposcopic Findings in DES-Exposed Patient Population

	Number	Percent
Colposcopic examination not performed	3	4.1%
Typical Transformation Zone	38	51.4%
Atypical Transformation Zone	33	44.5%
Coppleson Grade I	22	29.5%
Grade II	10	13.6%
Grade III	1	1.4%
Erythroplakia (Ectopy, eversion, ectropion)	17	23.0%
Normal Squamous Metaplasia	20	27.1%
Vaginal Adenosis	15	20.3%

deferred or deemed "not necessary" in 4.1 per cent of patients. Typical transformation zones were observed in 51.4 per cent of the patients, while atypical transformation zones were recorded in 44.5 per cent. Twenty-nine per cent of the atypical transformation zones were in the category of Grade I atypia, according to the system proposed by Coppleson, and represent mildly atypical changes. Ectopic columnar epithelium on the cervical portio vaginalis was observed in 23 per cent of patients, and typical squamous metaplasia was recorded in 27.1 per cent. Adenosis as a colposcopic diagnosis was stated in 20.3 per cent of patients subjected to examination.

The results of pathologic evaluation of biopsy material are contained in Table V. Biopsy was not performed in 17.6 per cent of the patients. The most common histologic findings in the patient population were acute cervicitis, chronic cervicitis, or both. Adenosis was encountered in 32.4 per cent, somewhat higher than that stated for gross or colposcopic impression. The histologic yield in terms of intraepithelial neoplasia was relatively low in spite of the large percentage of patients with atypical transformation zones observed. A single case of squamous cell carcinoma-in-situ of the cervix was observed. No evidence of CCA was encountered in any of the biopsy material.

DISCUSSION

In the small patient population surveyed at the Women and Infants Hospital of Rhode Island no case of CCA has been encountered. The percentage of biopsy-proven adenosis conforms well to the 38 per stated incidence by Herbst,[3] but not to the 87 per cent and 90 per cent stated by Stafl[4] and Sherman,[5] respectively.

The transformation from Mullerian (columnar) epithelium to squamous epithelium by squamous metaplasia normally occurs in the presence of a lowered vaginal pH. This dynamic process, occurring over years in the reproductive lifetime of a woman, entails considerable maturation of an immature epithelium, and when viewed colposcopically and histologically may be misinterpreted as neoplasia, when it is in fact normal albeit immature metaplasia. The

TABLE V

Histologic Findings in DES-Exposed Patient Population

	Number	Percent
Biopsy not performed	13	17.6%
Cervitis, Acute and Chronic	44	59.5%
Vaginal Adenosis	24	32.4%
Squamous Metaplasia	17	23.0%
Cervical Intraepithelial Neoplasia (CIN) or Vaginal Intraepithelial Neoplasia (VAIN)	8	10.8%
CIN or VAIN I	6	8.1
CIN or VAIN II	1	1.4
CIN or VAIN III	1	1.4
Atypical Squamous Metaplasia	5	6.8%
Vaginitis, Acute and Chronic	2	2.7%
Acanthosis	1	1.4%
Parakeratosis	1	1.4%

colposcopic impression of atypia within the transformation zone of varying grades and the histologic yield of intraepithelial neoplasia do not well relate to each other in our small series. This is perhaps best explained by the immaturity of the metaplastic epithelium which may appear as neoplasia to the colposcopist, but will not be confirmed by the pathologist. The designations CIN and VAIN used in Table 5 represents the preferred manner of indicating epithelial changes formerly referred to as dysplasias.[6] CIN Grade I corresponds to a mild dysplasia, CIN II to moderate dysplasia, and CIN III includes severe dysplasia and carcinoma-in-situ.

The low yield of intraepithelial neoplasias in our patient population thus far screened should not allow us to assume a false sense of security. From the data thus far accumulated, from 0.14 to 1.4 cases per 1,000 individuals have been exposed to DES.[2] Our patient population to date has been small. CCA is not difficult to diagnose when the patients are experiencing symptomatology, but as many as 18 per cent of the cases in the Tumor Registry have been asymptomatic. The three-year survival approaches 75 per cent with Stage I lesions.[2] Treatment modalities for CCA consist of either radical surgery or extensive radiotherapy, the former being preferable for early lesions.

If, in fact, CCA is to be detected at a curable stage, routine screening of *all* patients exposed *in utero* to steroidal and non-steroidal estrogens must be continued. We must continue to identify these young women, conduct thorough initial cytologic, gross, colposcopic, and histologic surveys of their genital tracts, and follow them at regular intervals with indicated procedures. Only in this manner will it become possible further to document the association of DES and its related compounds with genital malignancy, and simultaneously offer young female patients at risk the opportunity for detection at an early stage of a potentially lethal neoplasm.

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Special Article:

David Vs. Goliath

Eight Physicians From The Nation's Smallest State Challenge Four Of The Country's Largest Malpractice Insurers

By Anthony F. Merlino, M.D.

This the blow-by-blow account of the efforts of a handful of Rhode Island physicians who chose to fight back rather than succumb to the injustices and inequities inflicted upon them and their colleagues by their malpractice insurers.

The story began back in April 1975 when for the first time Rhode Island physicians began to experience difficulty obtaining professional liability insurance coverage at reasonable rates.

Up until that time, New England in general and Rhode Island in particular had enjoyed a very good malpractice claims experience. Only a minimal number of suits had been brought, most of which were won by the physician-defendants. In those that were not, the monetary awards were small. Because of this track record, Rhode Island malpractice insurance premiums had been, until then, among the lowest in the entire country.

Reprinted from the September 1977 issue of **JLM/ Legal Aspects of Medical Practice** with the kind permission of the publishers and author.

ANTHONY F. MERLINO, M.D., *Providence Orthopaedist; affiliated with St. Joseph's Hospital and Roger Williams General Hospital; appointee to the Panel of Medical Advisors for the State of Rhode Island in 1974 and to the Rhode Island Medical Malpractice Commission in 1975.*

It came as quite a shock, therefore, when the four major medical malpractive insurance underwriters in Rhode Island proposed significantly higher malpractice premium rates to go into effect in July 1976. In some cases, those new rates were several times those in effect the preceding year. The four companies — the St. Paul, Aetna, Travelers, and Hartford — wrote over 95 per cent of the malpractice policies on the state's approximately 1,250 physicians.

As if this were not bad enough, the insurer of the largest single group covered by any company in Rhode Island (more than 600 physicians who had opted for the state medical society plan) decided to change substantively the way it wrote medical malpractice coverage. The St. Paul announced it was going from a *claims-occurrence* to a *claims-made* basis.

At that time, most physicians had not the faintest idea that the *claims-occurrence* policies they had been buying covered any and all claims arising out of an incident during a particular policy year no matter how many years later the claim might be filed. And they certainly could not have been expected to know that *claims-made* policies covered only claims filed during the current policy year regardless of when the incident took place. A few of us took the time and trouble to learn the difference and began explaining it to our fellow physicians. Once

so informed, the more than 600 physicians affected overwhelmingly rejected claims-made coverage.

USING 'CONSENT TO RATE INCREASES,' ONE COMPANY CHARGED PREMIUMS 148 PER CENT HIGHER THAN THOSE APPROVED BY THE STATE INSURANCE COMMISSIONER

Not to be outdone, Aetna (the insurer writing the second largest number of malpractice policies in the state) came up with a little gimmick of its own. It began to employ "consent to rate increases" while charging rates 148 per cent higher than those approved by the state's insurance commissioner. The company got around the law by having the individual policyholder sign a "consent to rate increase" form that in essence said the policyholder knew the rate being charged was higher than that approved by the state's regulatory agency but that since he needed coverage and could not get it elsewhere at a lower rate he would contract to buy it from Aetna at the nonapproved higher rate.

Clearly, an effort had to be made to head off what appeared to be a rampant escalation of the crisis in malpractice insurance availability and affordability. Two physicians, Drs. David M. Barry and Paul J. M. Healey, were instrumental in getting a bill introduced into the state legislature that would have frozen the existing rates for 10 months and created a malpractice study commission to propose definitive malpractice reforms within that time.

The bill passed the state senate unanimously. But the threat of the St. Paul, the state's largest malpractice insurer, to withdraw from the state apparently killed the measure in the House. Prior to the defeat of the bill, however, the two physicians who had urged its introduction had some unsettling experiences. A representative of the state's largest broker for malpractice insurance called their offices to threaten that their malpractice policies would not be renewed if they did not have the bill withdrawn.

While all this was going on, the more than 600 physicians insured by the St. Paul were not lulled. Their malpractice insurance was due to expire on June 30, 1975, and many could not accept renewal of their coverage on a claims-made basis. As a result, physicans attempted — futilely — to obtain malpractice insurance coverage with one of the state's three other major medical malpractice underwriters. They were advised that the local malpractice insurance market was "frozen" with respect to switching from one company to another. They were given the option of accepting claims-made or "going bare."

Almost one-half of the state's physicians (many in the surgical subspecialties) said they

HIGH COURT TO HEAR MD'S SUIT

The Supreme Court agreed to decide whether malpractice insurance companies illegally boycotted Rhode Island physicians.

The case arose from a 1975 decision by St. Paul Fire & Marine Insurance Co. to renew professional liability coverage only on a restrictive "claims made" basis which imposes a time limit on coverage. Physicians who then attempted to take their business to three other insurance companies claimed they were denied coverage of any sort. They, and their patients, claimed this constituted a boycott. They were upheld by a lower court. The other companies involved are Aetna Casualty & Surety Co., Hartford Fire Insurance Co., Hartford Casualty Co., and Travelers Insurance Co. The companies maintain that federal law exempts them from such antitrust suits and that the "boycott" exception does not refer to boycotts of policyholders. The companies said that if the lower court ruling is allowed to stand, it would become "an invitation to policyholders to invoke a federal forum to redress grievances which until now have been left to state regulation."

The federal appeals court in Boston, in upholding the plaintiffs, had acknowledged that other courts had interpreted the boycott exception as one designed by Congress to protect agents or other insurance companies from being blacklisted by combinations of companies.

The Boston court disagreed, however, finding that the meaning of the law was not ambiguous and noting that in antitrust law, a boycott is a "concerted refusal to deal" with a disfavored purchaser or seller.

"Concerted refusals by a number of companies to sell malpractice insurance policies to doctors who were dissatisfied with the policy offered by their insurer would seem to fit within this definition of boycott," the court declared.

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would refuse to jeopardize the future financial well-being of their families by practicing without proper professional liability insurance. Faced with this prospect, the state medical society prevailed upon the governor to prevent a crisis in medical services by setting up, on a temporary basis, a state-sponsored nonprofit Joint Underwriting Authority (JUA).

The JUA was created in June 1975 as a risk pool to insure all the state's physicians on a claims-occurrence basis. The JUA has several physicians on its board of directors and continues in operation today. Premiums are higher that we think justified. But, inasmuch as our rates have not increased in the past two years, most physicians seem to be satisfied with the current arrangement.

In addition to ordering the formation of the JUA under an Emergency Powers Act, the governor appointed a medical malpractice study commission of 30 members, including four physicians. The commission was to formulate comprehensive corrective medical malpractice legislation. Several tort law changes were proposed. These were enacted into law by the state legislature in April 1976. Although by no means constituting a definitive solution to the malpractice mess, there is hope that these changes will bring about some improvement in the overall medical malpractice climate in Rhode Island.

All through the spring of 1975, prior to the formation of the JUA and the appointment of the medical malpractice study commission, meetings of interested Rhode Island physicians were being held. Physicians worked to resolve the problem through their local specialty societies as well as through individual hospital staffs and county medical societies. One of the most active groups was the Rhode Island chapter of the American College of Surgeons. It sponsored a malpractice forum open to the state legislators and the media. At its annual meeting in Bermuda in May 1975, it conducted a symposium on malpractice for its member physicians.

Out of these sessions developed an awareness among physicians that something was not quite right about the manner in which the malpractice insurance industry conducted business in this state. This feeling ultimately resulted in eight of us instituting an antitrust suit against the four major medical malpractice insurance underwriters in Rhode Island.

Curiously enough, some of those eight physicians had never even met one another prior to the spring of 1976. The group included an anesthesiologist, Dr. Leroy S. Chapnick; two general surgeons, Dr. Paul B. Metcalf and Dr. H. Gerald Rock; a general and peripheral vascular surgeon, Dr. Paul J. M. Healey; two neurosurgeons, Dr. David M. Barry and Dr. Walter C. Cotter; and two orthopaedic surgeons, Dr. Rosario V. Tomaselli and myself.

As we talked in Bermuda, our thoughts began to focus on action. We decided to seek redress in the courts after witnessing firsthand what we, as non-lawyers, perceived as blatant manipulation of premium rates, discriminatory rating practices, refusals to insure, and a seeming conspiracy between the supposedly competing insurance companies. We were spurred on to take action by the St. Paul's threat to withdraw from the state, its exclusive monopoly to sell malpractice insurance to over 600 Rhode Island physicians, and by the denial of insurance to the present St. Paul policyholders by the three other major medical malpractice insurers in the state. The Aetna "consent to rate increases" scheme also goaded us on. Finally, the attempted intimidation of two of our physicians by the representative of a local malpractice insurance broker added to our determination to bring this matter into the legal forum.

One of the participants in the Bermuda symposium was attorney Leonard Decof, who happened to be the state' foremost malpractice *plaintiff's* attorney. Most of us had not been acquainted with him prior to the meeting. As we came to know him on a personal and social basis in Bermuda, we were impressed with his honesty and sincerity, to say nothing of his professional competence. In Bermuda, we began to discuss with him our thought about a possible antitrust suit against the insurance companies. After returning to Rhode Island, Decof thoroughly reviewed the situation and researched the pertinent case law. He concluded that we had good grounds for an

antitrust suit and agreed to represent us in that action.

ON JUNE 4, 1975, THE 'RHODE ISLAND EIGHT' FILED A $100-MILLION ANTITRUST SUIT AGAINST THE ST. PAUL, AETNA, TRAVELERS', AND HARTFORD INSURANCE COMPANIES

On June 4, 1975, the "Rhode Island Eight" filed a $100-million antitrust suit in the U.S. District Court in Providence against the St. Paul, Aetna, Travelers', and Hartford Insurance Companies.

Was it just a coincidence that on June 9, 1975, the St. Paul agreed to renew the malpractice insurance of two local hospitals after having previously refused to do so? We chose to believe that our suit was paying dividends already.

Ultimately the tide turned against us. Following the usual motions to dismiss by the defendants and the filing of amended complaints by the plaintiffs, the district court on April 30, 1976, dismissed our suit on the grounds that it lacked jurisdiction under the Sherman Antitrust Act.[1]

Undaunted by this temporary setback, Attorney Decof and his associate, Mark Mandell, appealed the decision. They filed a scholarly brief in which they reviewed the entire history of the Sherman Antitrust Act[2].

Once again it was David vs. Goliath as the two Rhode Island barristers presented our appeal in the U.S. First Circuit Court of Appeals in Boston on November 4, 1976. The defendant-appellee insurance companies were represented by a battery of high-powered legal talent from some of the nation's most prestigious general law and antitrust law firms.

Our attorneys left the courtroom with the distinct feeling that the judges were favorably impressed with their arguments. When three months later no decision had been reached, we all interpreted this as a favorable sign since this particular court rarely took over 60 days to hand down a decision.

FOR THE FIRST TIME EVER, THE ANTITRUST IMMUNITY VEIL OF THE INSURANCED COMPANIES HAS BEEN PIERCED BY COURT DECISIONS

Finally, on May 16, 1977, the First Circuit Court of Appeals, in a two-to-one decision, ruled that the Rhode Island federal trial court should not have dismissed our antitrust suit against the four insurance companies. The primary issue in the case, the appellate court said, was whether a "consumer" of insurance could sue an insurance company for violation of antitrust laws in its dealings with actual or prospective policyholders.[3]

The appellate court held that insurance companies, when they engage in acts of boycott, coercion, or intimidation, *are* subject to the Sherman Antitrust Act and *not* exempted from antitrust regulation under the McCarran-Ferguson Act. The latter federal law, the court said, does *not* confer blanket immunity to insurance companies engaging in such acts.[4] The court further held that the boycott provision of the McCarran-Ferguson Act, 15 U.S. Code 1013 (b), makes insurance companies subject to the antitrust laws not only when dealing with other insurance companies but also when dealing with policyholders.

We expect that the defendant insurance companies will appeal the circuit court's decision to the U.S. Supreme Court. Meanwhile, a recent West Virginia appellatte court decision,[5] holding that the denial of insurance coverage can be a violation of the Sherman Antitrust Act, offers us encouragement. Not only is that decision supportive of our position, but the U.S. Supreme Court has refused to review it. In effect, this upholds the decision of that appellate court.

These two independently arrived at federal appellate court decisions, one in Rhode Island and the other in West Virginia, and for the first time ever have pierced the antitrust immunity veil of insurance companies. Ultimately, they may well sound the death knell to the exorbitant malpractice insurance premium rates to which the health care industry and, in the final analysis, the health care consumer are being subjected.

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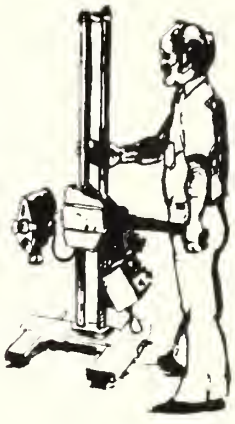

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Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

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Editorials

ANCILLARY SERVICES

While there is cost inflation in all aspects of medical care, the lion's share can be attributed to the hospitals. If the overall rise is to be affected significantly, the hospital component must receive the major attention.

Improved hospital administrative procedures, such as joint purchasing and sharing of services, have been applied increasingly, but the greatest potential for money saving lies in control of the burgeoning multiplication of hospital tests and procedures. We must face up to the important role of physicians in this matter. The major focus hitherto has been on medical necessity for admission and length of stay. Over the years these have been handled with increasing sophistication. Starting with certification and recertification, then retrospective review in utilization review committees, we have now progressed to universal concurrent review. Unnecessary admissions and excessive length of stay have probably been reduced for all practical purposes and in most areas to the irreducible minimum or at least to a level where substantial savings will not result from further tightening of the screws. We shall not address here the potentialities of HMOs, home care, ambulatory surgical centers, and other contrivances which are purported to reduce hospitalization. However, it is now generally realized that per diem costs are actually increased as unnecessary hospital stays are reduced. We have reached a point where further worthwhile cost reductions can be realized only by reducing the numbers of procedures or tests to which a patient is subjected.

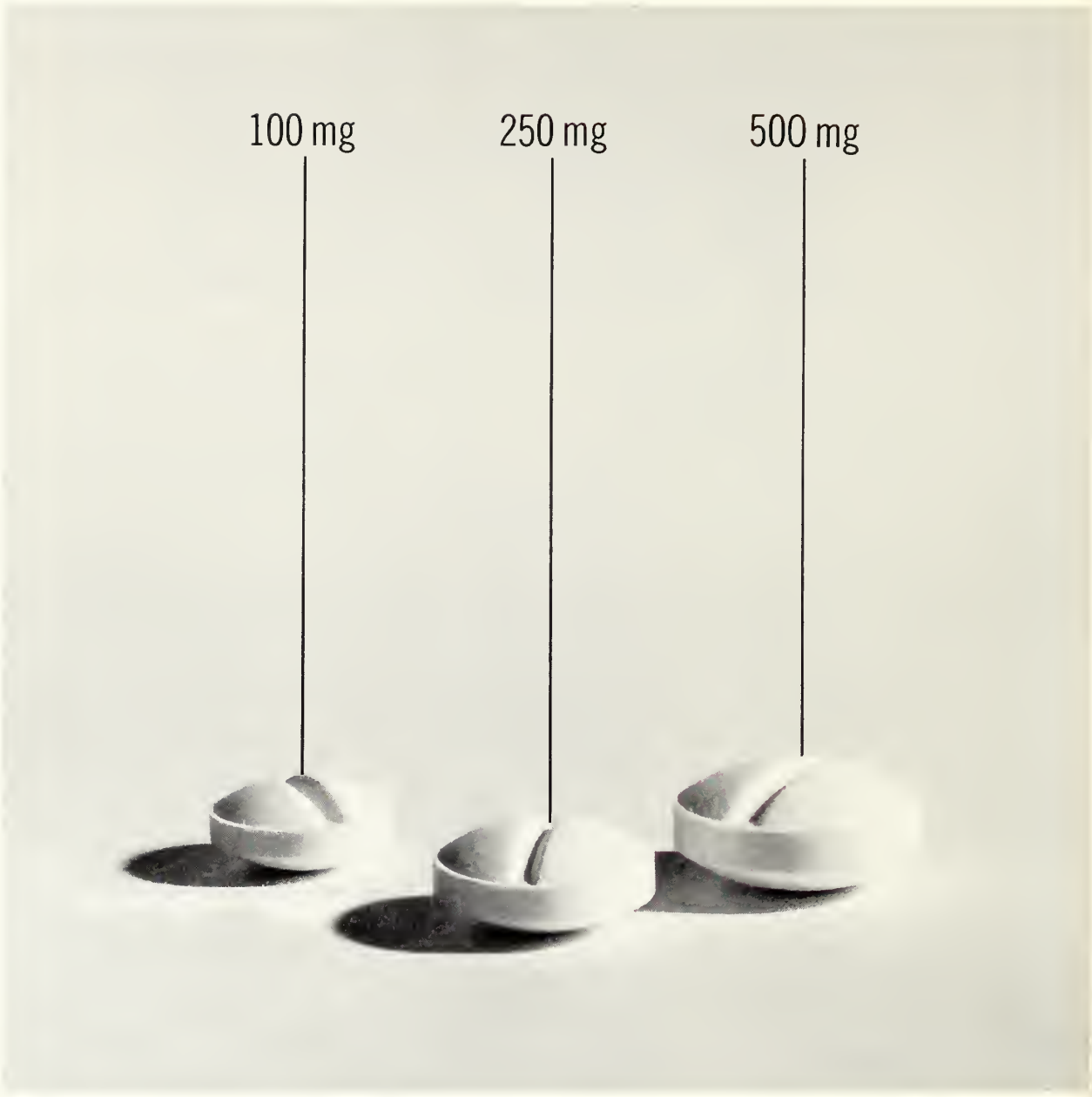
There has has been some evidence both locally and nationally that more than lip service is at long last being given to this aspect of medical care. Thomas M. Tierney of HEW recently stated: "It is the volume of services rendered by hospitals which is, in my view, the major element that needs to be controlled." He pointed out that it is a prescribing physician "who is determining the duration of stay and who is ordering the increasing quantity of tests and services which are rendered to patients during their hospital stay." It should be emphasized, however, that while this is undoubtedly true it does not follow that pointing the finger or harrassing the profession will produce results.

Some of the foundations for medical care in the West first gained attention by attacking with some success the problem of unnecessary visits and excess tests and procedures (such as injections).It was not carefully noted, however, that this success applied primarily to ambulatory Medicaid patients. The Utah foundation, on which the PSRO law was patterned, was concerned basically with medical necessity for admission and length of stay.

Very few hospitals (if any) have seriously, comprehensively, or effectively addressed the problem. The academic community and organized medicine have had a largely detached attitude. The recent Blue Shield list of obsolete and unnecessary procedures (now also adopted by Blue Cross), while commendable, has been but a small beginning. The PSROs have been neither financed nor federally directed to attack this problem, although the law is now six years old, with implementation having started as much as four years ago. While quality assurance has from the beginning been touted as part of the PSRO program its effect on overutilization of ancillary services has varied from slight, to nil, to paradoxical. Collecting of useful data has not yet even begun.

For effective progress the impetus must be from the profession itself, which clearly controls the standards of medical practice.

A number of simultaneous approaches to the control of ancillary services we believe



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will be necessary: 1. adoption of explicit policy by organized medicine; 2. adoption of explicit policy by the JCAH; 3. adoption of explicit policy by the American Hospital Association; 4. adoption of explicit policy by medical staffs and hospital trustees; 5. adoption of a positive program by the academic community so that resources can be directed to the appropriate education of students and residents; and 6. appropriate direction and financing of the PSROs by the federal government, so that they can become involved seriously, effectively, and promptly in this important project.

Doctors as individuals cannot cope with this immense problem. A massive joint coordinated effort will be necessary to turn things around, and the key word is education.

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To the Editor:

I should like to express to the journal how much I enjoyed the editorial in the December 1977 issue of the *Rhode Island Medical Journal* on the Rhode Island Medical Society Library. Perhaps this will help to place the whole problem in a true perspective. Congratulations!

Guy A. Settipane, M.D.

To the Editor:

I am confident that the editorial in the December 1977 issue of the *Rhode Island Medical Journal* on the Medical Library of the Rhode Island Medical Society reflects the feelings of quite a few people. Among them is our distinguished librarian, Mrs. Carolyn Waller, who has bolstered these feelings by hard, usable facts.

With her permission, please find enclosed a copy of her self-explanatory contribution to the good cause.

"In addition to the points made in the editorial in the *Rhode Island Medical Journal*, every Health Science Library in the state depends upon the Rhode Island Medical Society Library for borrowing state journals which they have obtained on exchange. It is a marvelous collection which none of us, with the possible exception of Brown, could pick up and carry on as a workable collection. It is also a central place that we feel free to send non-physician patrons to whose questions are related more to health care in general than any of our individual collections can provide.

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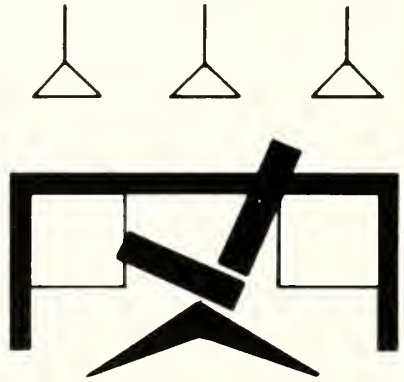

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Miriam Hosp.	748	1508	2256
Newport Hosp.	34	719	753
Pawtucket Memorial	116	838	954
Providence College	165	171	336
Rhode Island College	261	106	367
Rhode Island Health	50	14	64
Rhode Island Hospital	638	337	975
Rhode Island Hospital N.	75	30	105
RIJC (Blackstone)	30	57	87
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Roger Williams Hospital	451	1494	1945
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- Prov.	659	276	935
- Nur.	26	15	41
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US Navy	0	40	40
University of Rhode Island	715	231	946
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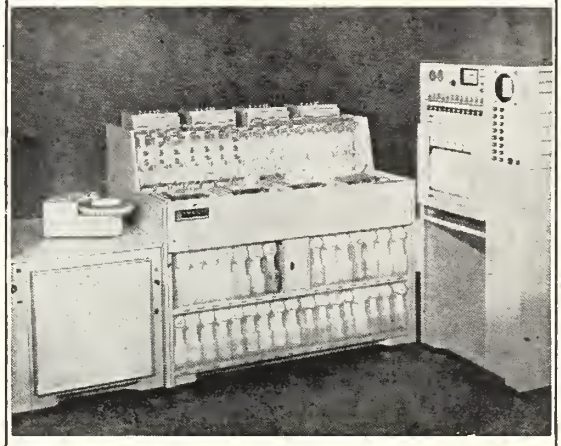

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Rhode Island Medical Journal

April, 1978

Vol. 61, No. 4

Drug Related Subjects

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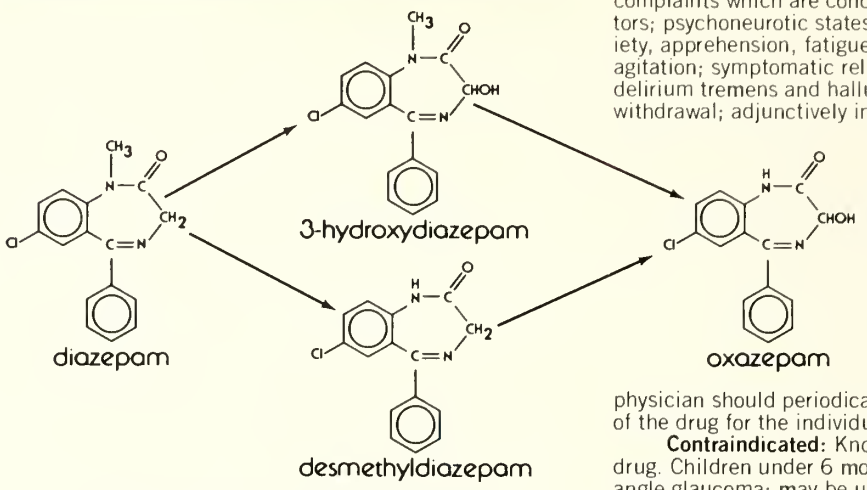

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Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

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APRIL, 1978 VOLUME 61, No. 4

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CONTINUING MEDICAL EDUCATION CALENDAR

MAY

8-13 ENVIRONMENTAL MEDICINE WORKSHOP. Roger Williams General Hospital commemorates its 100th anniversary with a week-long series of lectures entitled, "New Medicine for a New Environment." The entire program is as follows:

Monday, May 8 10:30 a.m.-12:30 p.m., "The Environmental Approach to Cancer — Some Considerations," Israel Diamond, M.D., Chairman, Department of Laboratory Medicine, Roger Williams General Hospital; Professor, Pathology and Laboratory Medicine, Brown University Program in Medicine; "Environmental Poisoning from Metals," William F. Sunderman, Jr., M.D., Ph.D., Professor and Chairman, Department of Laboratory Medicine, University of Connecticut School of Medicine.

Tuesday, May 9. 11:30 a.m.-12 noon, "Occupational Diseases of the Lungs," Kaye H. Kilburn, M.D., Professor of Medicine and Community Medicine, Mt. Sinai School of Medicine.

Wednesday, May 10. 9:00 a.m.-12 noon, The Whitmarsh Oration, "The Ischemic Lower Limb," Charles Rob, M.D., Chairman, Department of Surgery, Rochester School of Medicine and Dentistry; 1:00 p.m.-2:00 p.m., "Current Problems in Occupational Dermatology: Environmental Diseases of the Skin," Donald J. Birmingham, M.D., Professor and Chairman, Department of Dermatology and Syphilology, Wayne State University School of Medicine.

Thursday, May 11. 9:00 a.m.-10:00 a.m., "Surgery of the Extracranial Cerebral Arteries: A 25-year Review," Charles Rob, M.D.; 11:00 a.m.-1:00 p.m., American Cancer Society Waterman Dialogue entitled, "Approaches to Therapy of Colorectal Cancer," first lecture, "The Contribution of Chemotherapy," Charles G. Moertel, M.D., Chairman, Department of Oncology, Mayo Clinic; Professor of Medicine, Mayo Medical School; Director, Mayo Comprehensive Cancer Center; second lecture, "The Contribution of Radiation," Walter Disney Rider, M.D., Professor of Radiology and Director of Radiological Oncology, Ontario Cancer Institute; 2:30 p.m.-3:30 p.m., "Law and Social Issues in Health Care," Al Gonzalez, MSW, J.D., Legislative Associate, National Association of Social Workers, Washington, D.C.; 3:45 p.m.-4:45 p.m., Panel Discussion, David S. Greer, M.D., Associate Dean of Medicine, Professor and Chairman of Community Health, Brown University Program in Medicine; Jane MacKenzie, Executive Director, Metropolitan Nursing and Health Services Association of Rhode Island; Eunice Schatz, Ph.D., Professor of Sociology, Rhode Island College; 8:00 p.m.-9:30 p.m., "Challenges of the '80s for Social Service in Health Care," Abraham Lurie, Ph.D., Director of Social Work Services, L.I. Jewish-Hillside Medical Center, New Hyde Park, New York.

Friday, May 12. 9:00 a.m.-12 noon, "Environmental Factors in Bladder Cancer," Gilbert H. Friedell, M.D., National Bladder Cancer Project; Chairman, Pathology Department, St. Vincent Hospital, Worcester, Massachusetts; "Management of Increased Intracranial Pressure," Charles Barlow, M.D., Corothers Professor of Neurology, Harvard Medical School; Neurologist-in-Chief, Children's Hospital Medical Center, Boston, Massachusetts; 7:00 p.m.-9:30 p.m., "Advance Cardiac Life Support," course given in cooperation with American Heart Association, Rhode Island Affiliate. Program registration limited to 30. Call 456-2022 for details.

Saturday, May 13. 8:00 a.m.-6:00 p.m., continuation of "Advance Cardiac Life Support" course. All lectures will be given in Kay Auditorium of Roger Williams General Hospital. For further information, call 456-2022.

JUNE

7 SYMPOSIUM ENTITLED, "DEVELOPMENTAL OUTCOMES OF STRESS IN THE NEONATE." Sponsored by Brown University Program in Medicine and Meeting Street School. Symposium will include lectures and panel discussion for the physician, allied health professionals, and special education teachers. Topics will include: "Hypoxic-Ischemic Brain Injury in the Neonate," Joseph J. Volpe, M.D., Associate Professor of Pediatrics and Neurology, Washington University School of Medicine, St. Louis, Missouri; "Follow-up of Congenital Spastic Hemiplegic Cerebral Palsied Children," Edward Sassaman, M.D., Pediatric Fellow, Developmental Evaluation Clinic, Children's Hospital Medical Center; Teaching Fellow in Pediatrics, Harvard Medical School; "Precursors for Abnormal Outcomes," Pamela Fitzhardings, M.D., Toronto Children's Hospital; "Interpreting the Criteria Obtained from Early Assessment Techniques," Einar Siquelund, Ph.D., Associate Professor of Psychology, Brown University. Participating Brown University Program in Medicine faculty: Stanley M. Aronson, M.D., Dean of Medicine and Professor of Pathology and Laboratory Medicine; Eric Denhoff, M.D., Medical Director, Meeting Street School and Clinical Professor of Pediatrics; Leo Stern, M.D., Professor and Chairman of Pediatrics, Section on Reproductive and Developmental Medicine. Registration at 8:00 a.m. 8:30 a.m.-5:00 p.m., Barus and Holley Building on the Brown University campus, George and Hope Streets, Providence, Rhode Island.

9 "THYROID DISEASE IN CHILDREN," Robert M. Blizzard, M.D., University of Virginia Medical School. Pediatric Teaching Rounds, Kay Auditorium, Roger Williams General Hospital. 10:30 a.m. to 12:00 p.m.

10 CONFERENCE ON BIOMEDICAL ETHICS — CERTAIN ASPECTS OF BEHAVIOR MODIFICATION IN THE ELDERLY. Co-sponsored by Newport Hospital, The Military and Hospitaller Order of St. Lazarus of Jerusalem, and Salve Regina College. 9:00 a.m.-4:00 p.m., O'Hare Science Center, Salve Regina College, Ochre Point Avenue, Newport, Rhode Island. Registration 8:00 a.m.-9:00 a.m. $5.00 fee. Welcoming addresses at 9:00 a.m. by Sister Lucille McKillop, R.S.M., President, Salve Regina College and Chev. Nicholas M. Salgo, Commandery of the Atlantic Order of St. Lazarus. Details of Program in next month's calendar.

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A Message From The Dean

THE STATE OF RHODE ISLAND INTERNSHIPS (1978-79)

At yearly intervals, this column has been consecutively assigned to the description of 1) the internships obtained by the current graduates of the Brown University Program in Medicine and 2) the geographic and professional backgrounds of the interns recruited by the hospitals of the State of Rhode Island. Taken together, these two yearly reports define the afferent and efferent components of graduate medical education in this state and provide us therefore with some small clue as to the desirability of our medical graduates when viewed competitively on a national basis, and the desirability of our local hospitals as viewed by the graduates of other medical schools in the United States. The editorial in the April issue of the Rhode Island Medical Journal summarized the internships obtained by the Brown graduates of 1978 and gave evidence that these men and women continue to be chosen by some of the most eminent academic medical centers within the United States.

First year graduate medical education program training programs (internships) are maintained at five of the eight hospitals affiliated with Brown University. All of the eight hospitals, however, take part in residency training programs in the subsequent years of graduate medical education. The approved patient care training programs include the following: family medicine (Director: Louis Hochheiser, M.D.), internal medicine (Directors: Paul Calabresi, M.D., Milton Hamolsky, M.D., Herbert Lichtman, M.D.), pediatrics (Director: Leo Stern, M.D.), obstetrics and gynecology (Director: Karlis Adamsons, M.D.), and surgery (Director: Henry T. Randall, M.D.).

On or about July 1, 1978, the Memorial Hospital, Rhode Island Hospital, Roger Williams General Hospital, The Miriam Hospital and Women and Infants Hospital will welcome 95 recently graduated physicians for training in the direct patient care internships mentioned above. Virtually all of these 95 men and women were selected through the recently concluded Intern and Resident Matching Program. These 95 individuals are graduates of 37 different U. S. medical schools as well as three medical

TABLE I

Medical Schools Attended By 1978-79 State of Rhode Island Interns

New England	(34)	**South**	(1)
Boston U.	-1		
Brown	-13	Virginia	-1
U. Conn.	-1		
Harvard	-3	**Midwest**	(14)
U. Mass.	-5		
Tufts	-2	Cincinnati	-1
Vermont	-3	Indiana	-2
Yale	-6	Loyola	-1
		Michigan State	-1
Middle Atlantic	(41)	Minnesota	-1
		Nebraska	-1
Albany	-3	St. Louis	-1
Georgetown	-5	S. Illinois	-2
George Washington	-2	Wayne State	-2
Hahnemann	-2	Wisconsin	-2
Mt. Sinai	-2		
New Jersey	-3	**West**	(2)
New York	-7		
New York U.	-3	Washington	-2
Penn.	-1		
Penn. State	-1	**Foreign Schools**	(3)
Pittsburgh	-1		
Rochester	-3	Beirut	-1
Rutgers	-2	El-Azhar	-1
State Univ., N.Y.	-4	Guadalajara	-1
Temple	-2		

schools which are overseas. Eighteen of the 95 are women.

Table 1 summarizes the medical schools attended by the state of Rhode Island interns for the year 1978-79 and Table 2 compares the geographic sites of these schools with the medical schools attended by the 1977-78 state of Rhode Island interns. No dramatic trend is apparent in these statistics.

TABLE II

Regional Pattern of Medical Schools Attended By State of Rhode Island Interns (1977-78 and 1978-79)

Region	1977-78	1978-79
New England	23 (25%)	34 (36%)
Middle Atlantic	36 (40%)	41 (43%)
South	6 (7%)	1 (1%)
Midwest	11 (12%)	14 (15%)
West	7 (8%)	2 (2%)
Foreign	8 (9%)	3 (3%)
Total	91	95

Table 3 indicates the places of residence of both the 1977-78 and 1978-79 state of Rhode Island interns. The states of New York, Rhode Island and Massachusetts are more commonly listed than the other states. The number and percent of interns who are foreign-born and foreign-trained continue to diminish and are substantially lower than the frequencies recorded five or more years ago. (See Table 4)

TABLE III

Places of Residence, 1977-78 and 1978-79 State of Rhode Island Interns

Region	1977-78		1978-79	
New England		28		41
Connecticutt	5		7	
Massachusetts	7		19	
Rhode Island	15		14	
Vermont	1		1	
Middle Atlantic		40		36
New York	24		23	
New Jersey	8		6	
Pennsylvania	8		5	
Maryland	0		1	
District of Columbia	0		1	
South		5		4
Midwest		14		10
West		3		3
Foreign		1		1
		91		95

TABLE IV

Medical Training of State of Rhode Island Interns

Hospital	First Year Interns: 1970-1971		1978-1979	
	U.S.	Foreign	U.S.	Foreign
Women and Infants	2	2	4	0
Rhode Island	29	2	45	3
Roger Williams	0	3	16	0
Miriam	0	8	15	0
Memorial	figures not available		12	0
TOTALS	31 (67%)	15 (33%)	92 (97%)	3 (3%)

In the May, 1977 issue of the Rhode Island Medical Journal, two cautious observations were offered: first, that the patient care internships in the Brown University affiliated hospitals appeared to be highly sought-after by well-qualified, recent graduates of American medical schools. Second, that there was increasing mobility exhibited by those graduating from the Brown medical school as well as by those about to enter the house staff programs of the Brown affiliated hospitals. Both of these observations continue to be valid in the light of the data incorporated in this editorial as well as the one appearing in the April issue of this Journal.

The state of Rhode Island seems a step closer to a goal of medical self-sufficiency.

Stanley M. Aronson, M.D.
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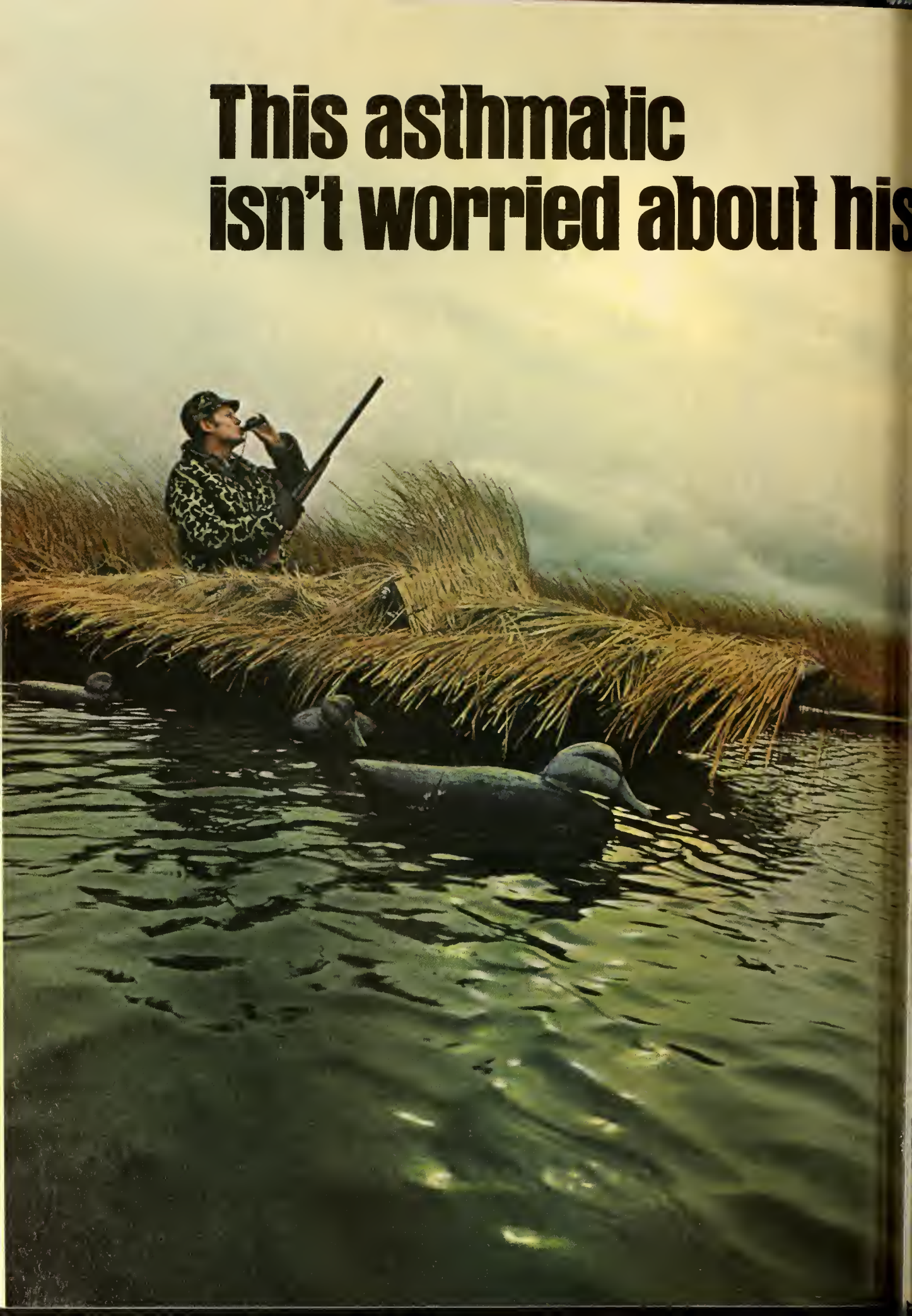

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Reference 1. Data on file, Mead Johnson Pharmaceutical Division.

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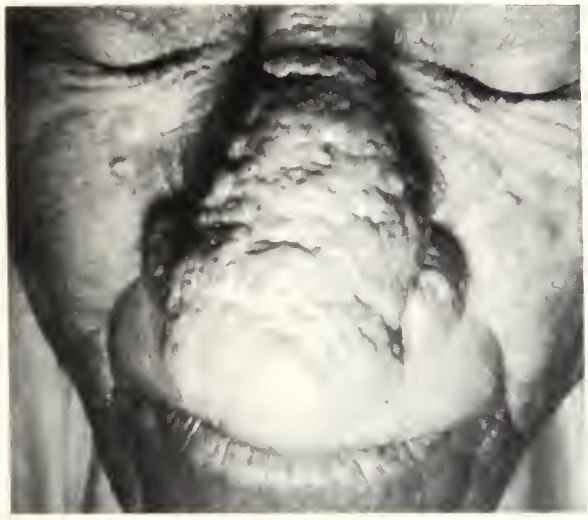
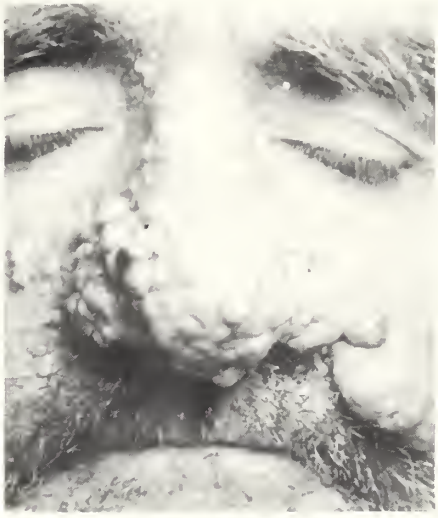


Left: A 53 year old male who for the past 8 years had noted increasing redness and enlargement of his nose. Examination disclosed many telangiectases and irregularly shaped lobules as well as discrete pustules over the nose.



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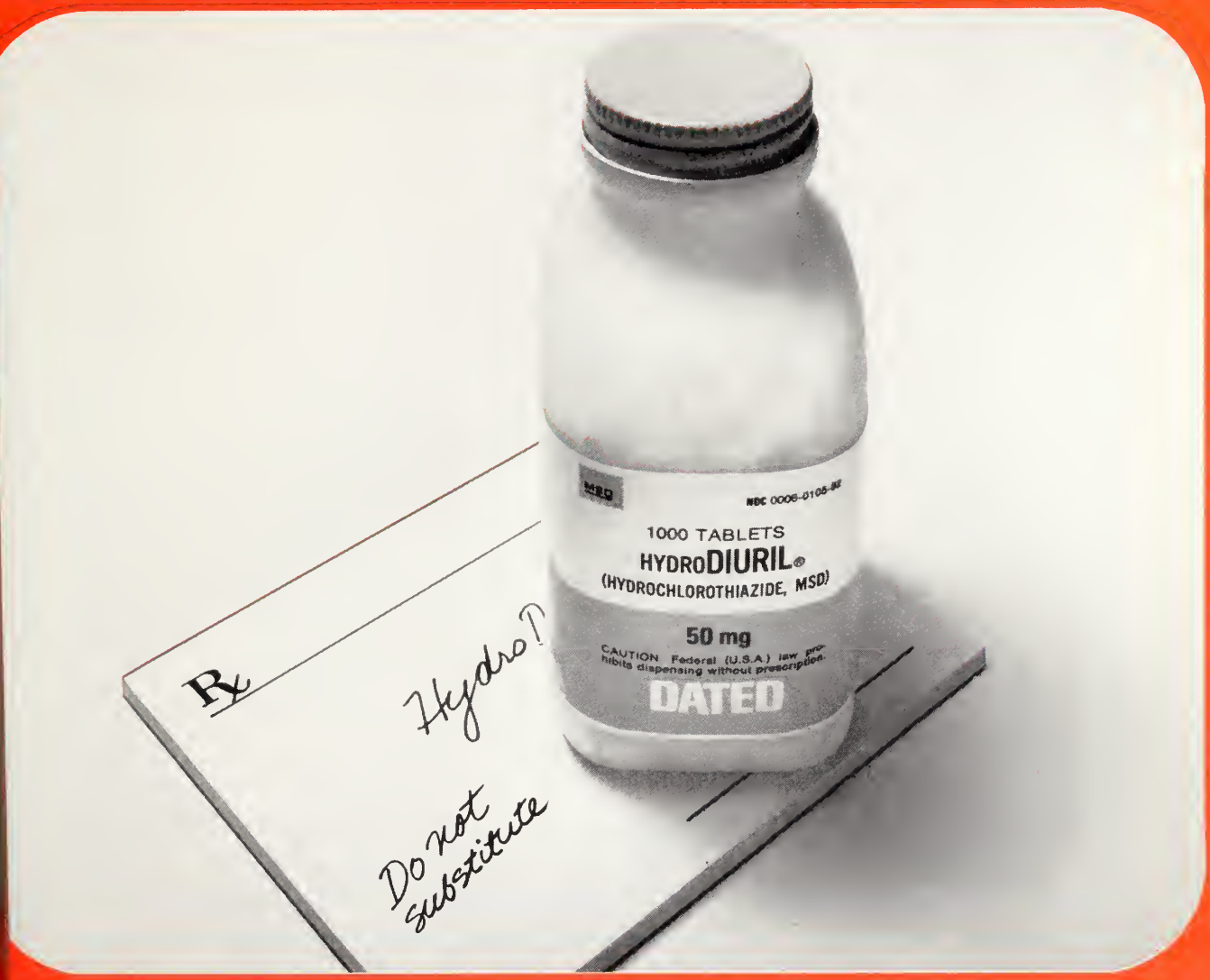
Precautions: Perform periodic determination of serum electrolytes to detect possible electrolyte imbalance. Observe all patients for clinical signs of fluid or electrolyte imbalance, namely, hyponatremia, hypochloremic alkalosis, and hypokalemia. Serum and urine electrolyte determinations are particularly important when patient is vomiting excessively or receiving parenteral fluids. Medication such as digitalis may also influence serum electrolytes. Warning signs, irrespective of cause, are dryness of mouth, thirst, weakness, lethargy, drowsiness, restlessness, muscle pains or cramps, muscular fatigue, hypotension, oliguria, tachycardia, and gastrointestinal disturbances such as nausea and vomiting. Hypokalemia may develop, especially with brisk diuresis in severe cirrhosis, with concomitant corticosteroid or ACTH therapy, or with inadequate oral electrolyte intake. Hypokalemia can sensitize or exaggerate response of heart to toxic effects of digitalis (e.g., increased ventricular irritability). Hypokalemia may be avoided or treated by use of potassium supplements, such as foods with a high potassium content. Any chloride deficit is generally mild and usually does not require specific treatment except under extraordinary circumstances (as in liver disease or renal disease). Dilutional hyponatremia may occur in edematous patients in hot weather; appropriate therapy is water restriction, rather than administration of salt except in rare instances when the hyponatremia is life threatening. In actual salt depletion, appropriate replacement is the therapy of choice.

Hyperuricemia may occur or frank gout may be precipitated in certain patients. Insulin requirements in diabetic patients may be increased, decreased, or unchanged; latent diabetes mellitus may become manifest. Thiazides may increase responsiveness to tubocurarine. Antihypertensive effects of the drug may be enhanced in postsympathectomy patients. May decrease arterial responsiveness to norepinephrine; this diminution is not sufficient to preclude effectiveness of the pressor agent for therapeutic use. If progressive renal im-

for experience—



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pitment becomes evident, consider withholding or discontinuing dietetic therapy. Thiazides may decrease serum PBI levels without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. Pathologic changes in the parathyroid gland with hypercalcemia and hypophosphatemia have been observed in a few patients on prolonged therapy; thiazides should be discontinued before testing for parathyroid function.

Adverse Reactions: *Gastrointestinal System*—Anorexia; gastric irritation; nausea; vomiting; cramping; diarrhea; constipation; jaundice (intrahepatic cholestatic jaundice); pancreatitis; sialadenitis.

Central Nervous System—Dizziness; vertigo; paresthesias; headache; xanthopsia.

Hematologic—Leukopenia; agranulocytosis; thrombocytopenia; aplastic anemia.

Cardiovascular—Orthostatic hypotension (may be aggravated by alcohol, barbiturates, or narcotics).

Hypersensitivity—Purpura; photosensitivity; rash; urticaria; necrotizing angiitis (vasculitis) (cutaneous vasculitis); fever; respiratory distress including pneumonitis; anaphylactic reactions.

Other—Hyperglycemia; glycosuria; hyperuricemia; muscle spasm; weakness; restlessness; transient blurred vision.

Whenever adverse reactions are moderate or severe, thiazide dosage should be reduced or therapy withdrawn.

Note: When used with other antihypertensive drugs, careful observations for changes in blood pressure must be made, especially during initial therapy. Dosage of other antihypertensive agents must be reduced by at least 50 percent as soon as this drug is added to the regimen. As blood pressure falls under the potentiating effect of this agent, further reduction in dosage, or even discontinuation, of other antihypertensive drugs may be necessary.

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Adverse Reactions To Drugs: I. Hypersensitivity

Allergic Reactions Are Altered Responses Mediated By Immunological Mechanisms

By Guy A. Settipane, M.D.

The frequency of adverse reactions to drugs in hospitalized patients is estimated to be 3-5%.[1,2] Adverse reactions to drugs may be classified as follows: *side-effects* (undesirable pharmacologic effect), *toxicity* (overdosage), *interactions* with other drugs, *idiosyncrasy* (unusual reaction not related to known pharmacologic action), *intolerance* (increased pharmacological effect with small doses), *allergic reactions,* and *pseudo-allergic reactions.*

Allergic reactions are defined as an altered response to a drug mediated by an immunological mechanism. Pseudo-allergic responses to a drug are described as adverse reactions that are not mediated by an immunological mechanism, but are clinically similar to the signs and symptoms of true drug allergy.

GUY A. SETTIPANE, M.D., *Associate Clinical Professor, Program in Medicine, Brown University, Providence, Rhode Island; and Physician-in-Charge, Division of Allergy, Department of Medicine, Rhode Island Hospital, Providence, Rhode Island*

Clinically, allergic reactions to drugs may be manifested by urticaria-angiodema, pruritus, erythema, fever, bronchospasm, vasculitis, other antibody-antigen complex symptoms, shock, and death. Immunologically, drug allergy and other hypersensitivity reactions are categorized by the Gell and Coombs classifications,[3] Table 1.

TABLE I

Types of Hypersensitivity (Gell and Coombs)

Types	Clinical Classification	Onset of Reaction	Antibody or Mediators
I	Acute anaphylaxis	Several Minutes	IgE
II	Cytotoxic or Cytolytic Reaction	Minutes to hours	IgG or IgM Complement
III	Arthus reaction (Immune complex disease)	Hours to several days	IgG
IV	Delayed reaction	48 Hours	Lymphocytes

Some drug hypersensitivity reactions, such as penicillin allergy, may manifest symptoms which can be classified as either type I, II, III, or IV. For example, penicillin has been known to produce immediate shock and death (type I), hemolysis (type II), serum sickness (type III), and delayed reactions, which may occur up to 2 weeks later (type IV). However, a significant number of rashes associated with ampicillin have a non-allergic basis and are classified as pseudo-allergic reactions. These pseudo-allergic reactions will be described in Part II of this report.

Atopy does not appear to predispose individuals to hypersensitivity reactions to drugs, and the frequency of drug allergy appears to be the same in atopic and non-atopic individuals.[4] However, there is evidence that asthmatic patients may have a more severe reaction to a drug than non-atopic individuals when a drug hypersensitivity does occur.[5,6] Also, pseudo-allergic reactions to aspirin are found more frequently in asthmatic individuals, who may experience severe reactions to this drug and related compounds such as indomethacin, sodium benzoate, mefenamic acid, phenylbutazone, ibuprofen (Motrin®), and tartrazine. Therefore, it is imperative that drugs be administered to asthmatic patients cautiously to avoid the possibility of adverse reactions.

It has further been observed that children have fewer drug hypersensitivity reactions than adults, which is usually attributed to a decreased exposure to certain drugs. As a child becomes older, his exposure rate to drugs, such as pencillin, is increased through usage, with the result that the risk of developing IgE antibodies to a drug becomes greater. It is a further possibility that the decreased frequency of drug allergy in children is related to an immature immunological system.

Most drugs are haptens and stimulate the immunological system by combining with endogenous macromolecules such as proteins, which serve as hapten carriers. Once antibodies to the hapten-carrier complex are produced, the presence of hapten alone can combine with the specific antibody producing an antibody-antigen reaction with the release of anaphylactic mediators such as histamine, slow reacting substance of anaphylaxis (SRS-A), chemotactic factors, and prostaglandins. In order to produce these allergic mediators, the hapten must be at least bivalent since univalent haptens do not cause the release of allergic mediators.

Drugs do not usually react with endogenous macromolecules, but in vivo degradation of these drugs may react with endogenous proteins resulting in antigenic stimulation of the immunological system. These breakdown products of drugs may combine with certain proteins or specific internal structures such as the lungs or blood, so that the resulting antigen-antibody reaction may be directed chiefly against certain body tissues resulting in organ specific pathology. For example, penicillin may be degraded in vivo to benzylpenicillenic acid, which combines with endogenous proteins to form benzylpenicilloyl haptenic groups, a major antigenic determinant of penicillin. The "minor" antigenic breakdown products of penicillin are benzylpenicillin, benzylpenicilloate, benzylpenilloate, and benzylpenicilloyamine. Some of the degraded products of penicillin may combine with protein molecules on red blood cells, thus stimulating the immunological system to produce antibodies against the complex of breakdown products of penicillin and tissue. The next exposure to penicillin may result in hemolytic anemia (Gell and Coombs type II reaction). If shock or acute anaphylaxis occur, it can be assumed that a Gell and Coombs type I reaction mediated by IgE antibodies has been activated.

Diagnosis

Presently, the main instrument for diagnosing drug allergy is a detailed history. A knowledge of which drugs are most often implicated in adverse reactions is important. The drugs that most frequently result in adverse reactions are pencillin, sulfonamides, and aspirin. At one time it was estimated that pencillin caused 500 deaths a year in the United States.[2] However, this estimate may now be revised downward because of progress in this field. Other drugs commonly associated with adverse reactions are listed in Table II.

In reaching a diagnosis of adverse reaction to drugs, one must also be aware of cross-

TABLE II.
Drugs Frequently Implicated in Systemic Reactions

1) Pencillin
2) Sulfonamides
3) Aspirin
4) Heterologous serum
5) Anesthetics
6) Iodides and radiopaque materials
7) Insulin
8) Barbiturates
8) Barbiturates
9) Tranquilizers
10) Tetracyclines and other antibiotics
11) Diuretics

reactions in sensitivity for certain drugs. Some hypersensitivities to penicillin G may cross-react with other forms of penicillin as well as cephalosporins. Hypersensitivity reactions to any given tetracycline may cross-react with derivatives of tetracyclines, such as oxytetracycline and chlortetracycline. Individuals with adverse reactions to aspirin may also have a similar adverse reaction to other compounds, which are described in Part II of this report. Indeed history is most important in diagnosing drug allergy.

Skin testing with a drug for establishing the diagnosis of adverse reactions may be appropriate under certain circumstances. However, skin testing with drugs may result in many false negative or false positive reactions. Furthermore, great care should be employed, since fatalities have been reported in skin testing with penicillin and aspirin.

Skin testing for drugs may detect an immediate type of hypersensitivity (Gell and Coombs type I), which is mediated by immunoglobulin E (IgE) attached to skin mast cells. This type of skin test is usually positive within 20 minutes after application of the antigen to the skin. A positive skin test that occurs one to 6 hours after application of the antigen to the skin usually detects the presence of large amounts of serum immunoglobulin G (IgG) specific antibodies and is termed an accelerated or Arthus type reaction (Gell and Coombs, type III).

The future in diagnosing drug allergy appears to lie in the in-vitro tests for specific IgE antibodies. Such tests as the Radioallergosorbent test (RAST) and the Galactosidase immunosorbent test (GIST) are presently being studied for clinical application to drug allergy. These tests determine if specific serum immunoglobulin E (IgE) antibodies to various drugs may be present and may in the future be replacements for skin tests in drug allergy. Rast and Gist are utilized in clinical allergy to determine if a type I hypersensitivity reaction is present.

To test for type II hypersensitivity reactions an anti-IgG or anti-IgM antibody is used. These antibodies to human immunoglobulin are produced immunizing a rabbit or other animal with a specific human immunoglobulin and harvesting the resulting anti-human immunoglobulin. Fluorescent chemicals may be attached to these anti-human immunoglobulins to facilitate detection of human immunoglobulins. These anti-human immunoglobulins are applied to human tissue in vitro to determine if the membranous surface of these tissues are coated with antibodies. The end result may be a cytolytic reaction. The Coombs anti-globulin test for immune hemolytic anemia is an example of this test.

The presence of small amounts of antibodies to drugs can be determined by hemagglutination assays which can detect extremely small quantities (nanogram/ml) of IgG and IgM antibodies. The bacteriophage neutralization test has also been shown to detect small levels of antibodies in human sera.

A type III hypersensitivity reaction is usually confirmed by a gel double diffusion test such as the Ouchterlong technique. This test determines the presence of precipitating antibody of the IgG class. It depends on the presence of a large amount of circulating IgG antibody to a specific antigen. An abundance of antibody-antigen complexes in the body results in damage to tissues. Serum sickness, allergic pneumonitis, and Arthus type reactions are examples of type III hypersensitivity. New and sensitive techniques, such as platelet aggregation tests and use of Raji cells for detecting the presence of circulating antibody-antigen complexes, will help in diagnosing and defining the role of these complexes in drug allergy and in other immunological diseases.

A type IV hypersensitivity reaction is mediated by sensitized lymphocytes. Patch or intracutaneous tests with the specific antigen is employed clinically in testing for this type

of reaction. The PPD skin test for tuberculosis is the classical example of this type of test. In vitro tests such as lymphocyte proliferation tests or migration inhibition factor (MIF) are among the newer methods available to test for this type of hypersensitivity, but their clinical applicability is not yet fully established.

Usually, type I hypersensitivity reactions are completely reversible, whereas types II, III and IV result in tissue damage which may cause fibrosis in some chronic cases and therefore not considered to be completely reversible. In some circumstances combinations of various types of reactions may co-exist. For example, in allergic bronchopulmonary aspergillosis both type I and type III hypersensitivity reactions may be present.

Type I and type IV Gell and Coombs reactions do not require the use of serum complement. Serum IgG_4 subclass, IgA, IgE, IgD also do not use up serum complement. Type II and type III reactions usually require complement. Measurement of components of serum complement, especially those involving the classical pathway [C'1,C'4,C'3, and total hemolytic complement (CH_{50})] may be helpful in detecting this type of reaction.

Management of Adverse Reactions General Principles

1. Stop the offending drug
2. Administer aqueous epinephrine 1/1000 0.2 to 0.3 ml, subcutaneously or intramuscularly, depending on the severity of the reaction and cardiac status of the patient.
3. Epinephrine may be repeated again in 15 to 20 minutes in severe reactions.
4. If the drug-allergen was given intramuscularly, retard absorption from the injection site by local infiltration of 0.1 — 0.2 ml of 1/1000 epinephrine. If the injection site is on an extremity, apply tourniquet proximally.
5. Maintain airway patency. Insertion of an endotracheal tube or performance of a tracheostomy may be necessary.
6. Intravenous infusion of isotonic saline should be begun in moderate to severe cases.
7. Diphenylhydramine (Benadryl®) 10-50 mg by the intramuscular route may be administered.
8. If epinephrine has not reversed vascular collapse, a drip infusion of norepinephrine [Levophed®, 1 ampule (4 ml of 0.2 per cent solution) added to 1 liter of 5 percent dextrose solution] may be infused at a rate of up to 2 to 3 ml per minute as required to maintain blood pressure.
9. If bronchospasm occurs and is not relieved by epinephrine, begin an intravenous infusion of aminophylline (6 mg/Kg in 250 ml of intravenous solution).
10. Corticosteroids (equivalent of 200 mg hydrocortisone every 4-6 hours) may be given even though the beneficial effects may be delayed in onset.
11. Patient should be observed closely for 2-3 hours after recovery from anaphylaxis. If symptoms persist, hospitalization may be necessary.
12. After recovery from acute anaphylaxis, Sus-Phrine® 0.10 ml subcutaneously may be given to maintain symptom-free state.

Desensitization to drugs such as penicillin is not recommended because of the hazards involved, except under extraordinary circumstances. Whenever there is a history of drug allergy, other drugs with similar pharmacological action should be chosen.

The drugs of choice for treatment of type I hypersensitivity reactions are epinephrine, followed by antihistamines and corticosteroids. The drugs of choice for treatment of type IV hypersensitivity are corticosteroids. For treatment of type II and III hypersensitivity reactions the primary drugs are corticosteroids, which may be supplemented by epinephrine and antihistamines as the clinical situation requires.

It is recommended that individuals with definite adverse reactions to drugs should carry information about their drug sensitivities on their persons at all times.

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Adverse Reactions To Drugs: II. Pseudo-Allergic Reactions

Pseudo-Allergic Reactions Are Altered Responses Mediated Through Mechanisms Other Than Immune

By Guy A. Settipane, M.D.

Certain drugs cause reactions suggestive of, but not proven to be due to an allergic mechanism. The type of symptoms produced by these adverse drug reactions are usually generalized urticaria/angioedema, bronchospasm, laryngospasm, or shock. Drugs that produce these pseudo-allergic reactions are aspirin, tartrazine, iodinated radiographic dyes, and ampicillin. Eliminated from this category are drug reactions that cause adverse reactions because of physical properties such as crystallization or colloid formations, which may result in microembolization. The reactions resemble a Type I, Gell and Coombs reaction as mediated by IgE antibodies. However, IgE antibodies specific for these drugs have not been found in serum of patients who experience these adverse effects.

The prototypic drug in this pseudo-allergic reaction category is aspirin. There are about one million people in the United States with pseudo-allergic reactions to aspirin. Adverse reactions to this drug are found, in decreasing frequency, in patients with chronic urticaria, followed by asthmatic patient, then normal individuals Table III[7,9]. The predominant symptom produced by aspirin in patients with chronic urticaria is an acute exacerbation of the urticaria; in those patients with asthma, an acute bronchospasm predominantly occurs. In normal individuals with adverse reactions to aspirin, either angioedema/urticaria or bronchospasm occurs.

These two major symptoms of aspirin intolerance, urticaria or bronchospasm, are usually associated with different clinical conditions, (Table IV) and for this reason may be due to different types of pathogenetic mechanisms which are at present unknown.

Specific IgE antibodies to aspirin have not been found. Minden and Farr[10] suggested that the sera of patients receiving aspirin contained antibodies that react with acetylated human serum albumin but that the presence of these antibodies did not correlate with clinical intolerance to aspirin. Utilizing phage neutralization and hemagglutination techniques, Amos et al[11] reported finding anti-aspiryl antibodies in human sera, but, as in the study of Minden and Farr, there was no correlation with clinical intolerance to aspirin. In 1971 DeWeck[12] reported that reagin induced by aspirin anhydride, a contaminant of commercial aspirin, was

TABLE III

Frequency of Aspirin Intolerance in Various Conditions

Type of Population	%
Chronic Urticaria	23.2
Asthma	3.8
Rhinitis	1.4
Normal	0.9

TABLE IV

Major Subtypes of Aspirin Intolerance

	Subtypes	
	Broncho-spastic	Urticaria/ Angioedema
Increased frequency in chronic urticaria of unknown cause	No	Yes
Increased frequency in asthma	Yes	No
Correlated with nasal polyposis	Yes	No
Similar age onset as asthma	Yes	No
Increased frequency in older age groups	Yes	No
Familial occurrence ...	Yes	Yes
Tartrazine cross-reaction	Yes	Yes
Elevated total Eosinophile count	Yes	No

present in those individuals with the urticaria/angioedema type of intolerance. In 1974 Phills and Perelmutter[13] reported that the bronchospastic type of intolerance is not mediated through IgE antibodies and that the urticaria/angioedema type is mediated through the IgE immunoglobulins. The techniques used in this study were the direct skin test to aspirylpolylysine (ASP-PLL) and rat mast cell test (RMCT) before and after absorption of IgE immunoglobulin.

However, in 1974 Schlumberger, Lobbecke, and Kallos[14] were unable to confirm positive allergy skin tests in those individuals with an urticaria type of aspirin intolerance using N-salicyloyl or N-acetylsalicyloyl antigens. Late in 1974 von Maur and co-workers[15] reported a family of which 6 individuals, representing three generations, had aspirin intolerance. However, skin tests to aspiryl-polylysine (ASP-PLL) were negative.

In 1976, using a galactosidase immunosorbent test (GIST) Weltman, Szaro, and Settipane[16] reported that specific IgE anti-aspiryl antibodies were not found in sera of patients with either the bronchospastic or urticarial type of aspirin intolerance.

The bronchospastic type of aspirin intolerance may be related to the prostaglandin system. In nonatopic asthmatics with nasal polyps an abnormal mechanism may exist in which aspirin may affect the ratio of PGE_2, a bronchodilator, to PGF_2 a bronchoconstrictor. A distortion of this ratio may lead to the dominance of PGF and cause a bronchoconstrictor effect. This theory is supported by known interactions between aspirin and prostaglandin.

Patients with pseudo-allergic reactions to aspirin are also at risk for developing similar reactions to certain drugs that appear to cross-react with aspirin. The food and drug coloring additive tartrazine causes adverse reactions in about 15 percent of individuals with pseudo-allergic reactions to aspirin.[8] It is estimated that there are about 150,000 individuals in the United States who react adversely to tartrazine. Since the type of symptoms produced by tartrazine in these individuals is usually similar to the symptoms produced by aspirin, a similar pathogenetic mechanism is postulated for pseudo-allergic reactions to tartrazine. Weltman, Szaro, and Settipane[16] reported that, as in the case of aspirin, no IgE anti-tartrazine antibodies were found in patients with pseudo-allergic reactions to tartrazine. Adverse reactions to tartrazine can occur without an associated aspirin tolerance.

Other drugs that cause adverse reactions similar to those of aspirin in patients with pseudo-allergic reactions to aspirin are as follows: indomethacin, sodium benzoate, mefenamic acid, phenybutazone, and ibuprofen. Indomethacin cross-reacts with aspirin 100 percent of the time in those patients with pseudo-allergic reactions to aspirin. Except for tartrazine, the cross-reactivity rates for these other drugs is undetermined, but appears to be small.

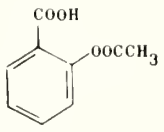
The molecular structures of drugs that cross-react with aspirin are dissimilar from that of aspirin (Fig. 1.). Sodium salicylate has a molecular structure similar to that of aspirin, but clinically does not cross-react with aspirin in those patients with aspirin intolerance. It appears then that drugs with dissimilar molecular structures cross-react

with aspirin and a drug with a similar molecular structure does not. These data support the hypothesis that pseudo-allergic reactions to aspirin are not mediated by an antibody-antigen reaction, since a specific antibody against aspirin would be expected to react with chemicals of similar molecular structure.

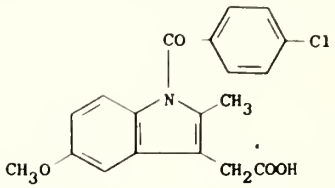
Radio—Opaque Dyes

Iodine containing organic compounds for radiographic use may cause adverse reactions such as generalized urticaria/angioedema, bronchospasm, laryngeal spasm, shock and death. A review of 10,000 consecutive intravenous urograms reveals that 1.7 per cent had pseudo-allergic reactions.[17] Severe adverse reactions resulting in death reportedly occurs once in every 50,000 intravenous pyelogram procedures.[18]

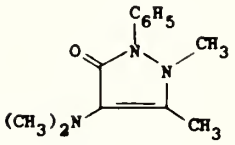
These adverse reactions are not thought to be mediated by specific IgE antibodies since none have been detected in sera of these patients. Evidence for this hypothesis is supported by the fact that only 16 percent of those individuals with a previous immediate generalized reaction to an intravenous iodinated radiographic compound responded



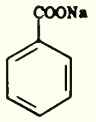
Aspirin



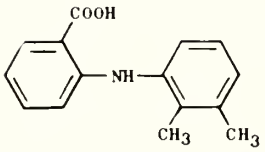
Indomethacin



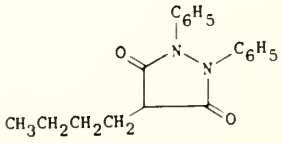
Aminopyrine



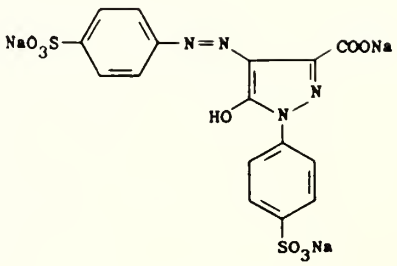
Sodium Benzoate



Mefenamic Acid
(Ponstel)



Phenylbutazone



Tartrazine

FIGURE 1 Molecular Structure of Aspirin And Drugs That Cross-React With Aspirin

with pseudo-allergic symptoms on the second challenge.[19] Most of these patients tolerated the second challenge well with no adverse reactions. If these reactions were mediated by IgE, it would be expected that a higher percentage of these patients would have generalized reactions to the second challenge dose. No apparent pathogenetic mechanism is known for these reactions, but it is possible that non-antibody mediated histamine release may occur. Iodinated dyes have been known to release histamine non-specifically from rat mast cells.

Ampiccillin Rash

Ampicillin may be associated with a skin rash that is non-allergic but that may be mistaken for an allergic dermatitis. This non-allergic rash associated with ampicillin is described as a maculopapular, non-pruritic rash not associated with systemic symptoms. It occurs in about 9 percent of individuals on ampicillin and as high as 50 percent in patients with infectious mononucleosis. Patients with lymphatic leukemia, or hyperuricemia, or those receiving concurrent allopurinol also have a high risk of developing a non-allergic maculopapular rash with ampicillin. These individuals usually have negative skin tests to penicillin products, and rechallenge with ampicillin at a later date caused no recurrence of the rash and no other adverse reaction.

It is important to differentiate an urticarial rash from a maculopapular rash, since an urticarial rash with ampicillin signifies a true allergic reaction. In these cases, a rechallenge dose with penicillin products may cause a very severe reaction. However, the most common rash associated with ampicillin is non-allergic.

Future Research

More research should be directed to developing in vitro tests for drug allergy. Skin tests to drugs are not satisfactory in that many false negative and false positive reactions occur. In addition, severe reactions have occurred with skin tests, and deaths have been reported. Therefore, funds for drug allergy study should be directed to other procedures which do not present undue risks to patients.

In vitro tests for specific IgE antibodies against a particular drug or its degraded product appear to offer the best chance for progress in drug allergy. A major problem is encountered in the use of in vitro tests such as RAST or GIST in that some of the antigenic reactive sites may serve as the combining sites of the drug to the immunoabsorbent disc. Those particular chemical sites are thus masked from specific IgE antibodies, contributing to false negative reactions. In addition, the specific IgE antibody may be directed to a degraded drug product or a drug product modified by serum proteins. Identifying and isolating that particular drug component may present a problem. Other research activities deal with in vitro tests involving sensitized lymphocytes. Here again it is most important that the appropriate antigen be isolated and used.

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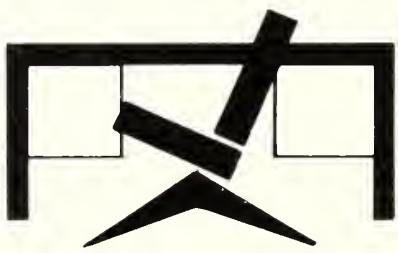

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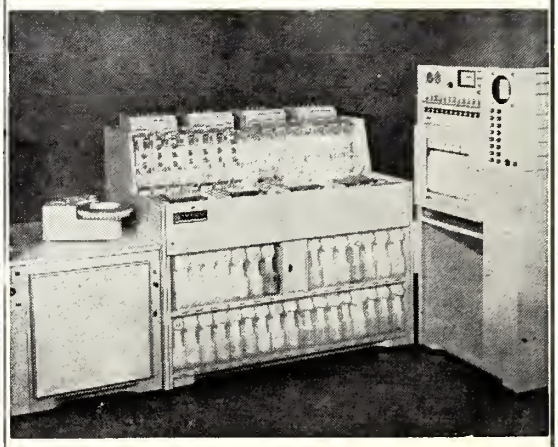

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The Effectiveness Of High Dose Beta Blockade In Patients With Variant Angina Pectoris

The Apparently Paradoxical Effect In Relieving Symptoms Emphasizes The Poorly Understood Pathophysiology Of The Disorder

By Howard R. Marcus, M.D.
Robert M. Easley, Jr., M.D., F.A.C.P.

Two patients with variant angina pectoris presented with episodes of chest pain, ventricular arrhythmias and A-V block. Attempts to control the symptoms with nitrates and in one case with dibenzyline were unsuccessful. Propranolol was given in high doses and symptoms were relieved. The pathophysiology of variant angina pectoris appears to involve coronary artery spasm, but precipitating factors are unclear. Experimental evidence for the effect of beta blockade on coronary artery spasm would indicate a potentially harmful role. The apparently paradoxical effect of propranolol in relieving symptoms in our two cases emphasizes the poorly understood pathophysiology of variant angina pectoris and the need for further investigation into therapeutic measures including the use of propranolol.

HOWARD R. MARCUS, M.D., *former Fellow in cardiology, Rochester, New York; presently practicing Internal Medicine and Cardiology in Middletown, Rhode Island*
ROBERT M. EASLEY, JR., M.D., F.A.C.P., *Clinical Assistant Professor of Medicine, Rochester General Hospital, University of Rochester School of Medicine, Rochester, New York*

Case Reports

CASE 1 (W.Y. RGH No 1123548). This fifty-eight year old white man presented with chest pain and syncope. The patient was asymptomatic until two months prior to admission when, while resting, he experienced substernal chest pain lasting several minutes. Subsequently the pain recurred during mild exertion and while at rest. The morning of admission the patient developed severe rest pain accompanied by diaphoresis and a syncopal episode. When seen in the emergency room his EKG was normal. Physical examination was normal except for a fourth heart sound. The next morning, while standing in the bathroom, he had another syncopal episode and complained of chest pain after recovering consciousness. The patient was transferred to the coronary care unit. His characteristic chest pain recurred, and an EKG recorded during pain showed S-T segment elevation in

the interior leads (Fig 1). During several subsequent episodes of chest pain ventricular tachycardia and A-V block occurred. All episodes were relieved by sublingual nitroglycerin. Propranolol, 40 mg every 6 hours, was begun, together with sublingual nitroglycerin, but episodes of chest pain and associated arrhythmias continued to occur. Propranolol was discontinued. A short trial of phenoxybenzamine was attempted. However, since his episodes of chest pain with arrhythmias became more frequent with this alpha blocking agent, it was discontinued.

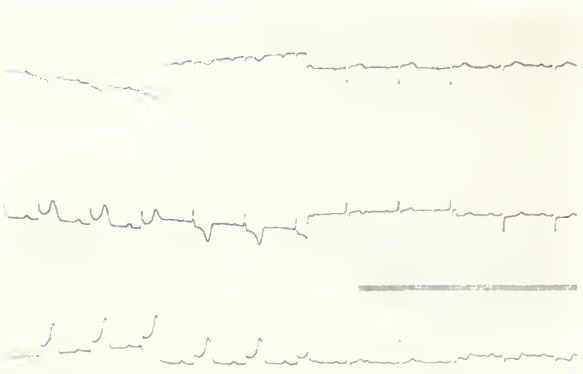

Figure 1 Marked S-T segment elevation in the inferior leads with reciprocal changes in the left lateral leads is seen during a period of chest pain.

Cardiac catheterization and coronary angiography were performed. A fifty per cent obstruction was found in the mid right coronary artery (Fig 2A), which was partially relieved by sublingual nitroglycerin (Fig 2B). The left coronary artery and its branches were normal. The patient was treated with isosorbide dinitrate, sublingual nitroglycerin, and propranolol 40 mg every 6 hours. Over the next few days several episodes of chest pain occurred, which were finally controlled when the dose of propranolol was increased. The patient was discharged on propranolol 70 mg every 6 hours and isosorbide dinitrate 5 mg every 4 hours while awake. In the subsequent four years the patient has been practically asymptomatic on this regimen.

CASE 2 (H.D. RGH NO 1618016). This forty year old white man also presented with chest pain and syncope. Seven weeks prior to admission he experienced a brief episode of retrosternal chest pressure and dizziness for the first time, occurring at rest. Three weeks later another brief rest episode occurred. Eleven days prior to admission while walking down a street he experienced substernal chest pain and dizziness, and lost consciousness. Two days later after awakening from sleep at two AM the same symptoms recurred. On the day before admission the symptoms recurred and the patient was seen in the emergency room. Since the Electrocardiogram (ECG) was normal the patient was sent home. On the day of admission the patient awoke with the same symptoms and again fainted. He returned to the emergency room. While being monitored he developed an episode of chest pain associated with S-T segment elevation followed by complete A-V block, which progressed to ventricular tachycardia and ventricular fibrillation. The arrhythmia reverted spontaneously to normal sinus rhythm.

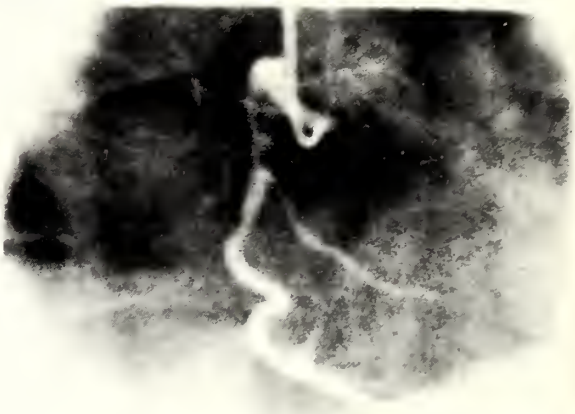

Figure 2 A. Spasm of the proximal right coronary artery during cardiac catheterization was associated with chest pain.

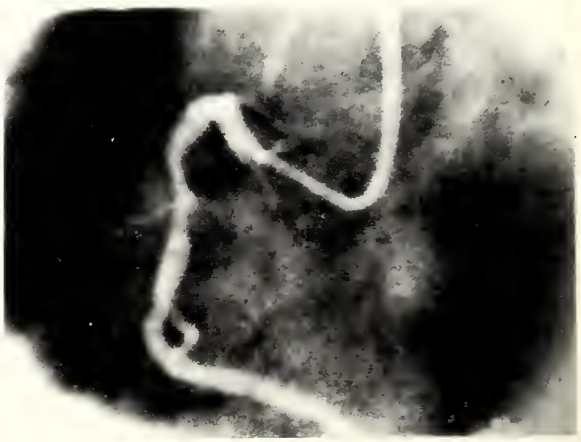

Figure 2 B. Note partial resolution of spasm after administration of sublingual nitroglycerin.

Physical examination was unremarkable. The resting ECG was normal, but marked S-T elevation in the inferior leads was noted during periods of pain. Later that day when the same pattern of pain and A-V block recurred, a temporary pacemaker was inserted, and the patient was started on propranolol and isosorbide dinitrate. During the next four days there were several more episodes of chest pain. Ventricular tachycardia, A-V block, or both occurred, which were relieved by sublingual nitroglycerin. The dose of propranolol was progressively increased to 60 mg every 6 hours, but the episodes persisted. Cardiac catheterization with coronary angiography was performed. While the catheter was in the left ventricle, the patient developed chest pain which was associated with S-T elevation (Fig 3), A-V block, and ventricular tachycardia. The symptoms and ECG abnormalities subsided with nitroglycerin administration. Coronary angiography done while the patient was pain free showed a tapered eccentric narrowing of less than fifty per cent in the proximal right coronary artery, which persisted despite nitroglycerin. On the next day during permanent pacemaker insertion several short runs of ventricular tachycardia occurred. Propranolol was increased to 80 mg 4 times daily. Subsequent monitoring showed no arrhythmias. The patient was discharged on the same dosage of propranolol and also nitroglycerin as necessary with a permanent pacemaker in place. Several months after hospitalization the patient tapered the propranolol to a minimal dose on his own and has remained symptom-free for three years. We plan to discontinue his drugs soon.

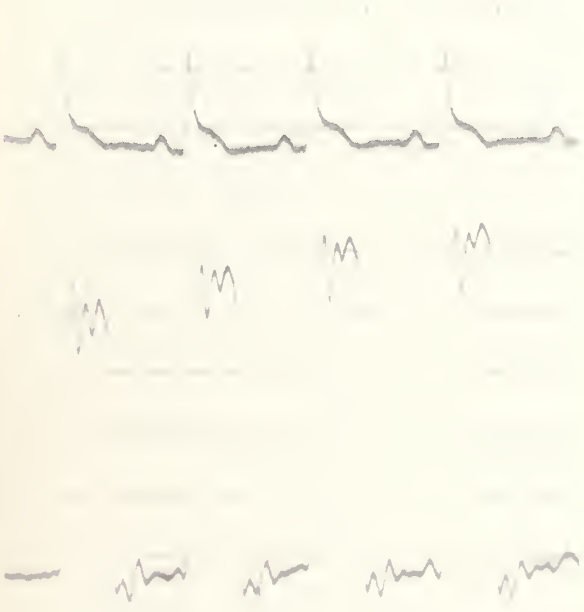

Figure 3 Marked S-T segment elevation in monitor lead II is seen associated with chest pain during cardiac catheterization.

Discussion

In the nearly twenty years since Prinzmetal published his original observations on variant angina pectoris, apparently conflicting data have been reported regarding the etiology and therapy of this disorder. Prinzmetal originally described anginal pain occurring without exertion associated with transient S-T segment elevation, at times accompanied by a variety of arrhythmias, all of which subsided after the resolution of pain. Prinzmetal postulated that variant angina pectoris resulted from spasm of a large atherosclerotic coronary artery[1].

A number of observations have been made on variant angina pectoris since this original description. Most observers agree that coronary artery spasm is important in the pathophysiology of the syndrome, and that the presence of fixed coronary obstruction is variable[2-4]. In a study of twenty-nine patients, spasm was identified angiographically in normal appearing coronary arteries in seven patients and in arteries with varying degrees of obstruction in the other twenty-two patients[2]. Among the angiographic features were areas of spasm which changed in configuration and extent and which were usually relieved by nitroglycerin. Single vessel obstruction was common. The development of collaterals was rare. It has been suggested that the transient ischemia of variant angina pectoris would not promote collaterals[3].

Although coronary artery spasm, whether associated with otherwise normal coronary arteries or not, is well documented in variant angina pectoris, the precipitating causes are not well understood, and a variety of factors have been implicated. It is recognized that a tactile stimulus such as a catheter can artifically produce vasospasm[5,6]; yet spontaneous coronary artery spasm has been seen angiographically without any apparent stimulus[6]. Withdrawal from industrial exposure to nitroglycerin has been implicated as a cause of delayed reactive coronary artery spasm[7].

In contrast with typical angina pectoris, however, an increase in heart work load in variant angina pectoris does not appear to be as important a precipitating factor. In a series of twenty-six episodes of spontaneous angina in five patients, in no instance was the onset of S-T elevation preceded by increases in heart rate, systolic blood pressure, or dp/dt[8]. In another study the left ventricular pressure-time index did not increase before or during attacks of variant angina pectoris[9].

Various types of vasoactive drugs have been used experimentally to induce coronary vasospasm, including ergot alkaloids, which have a direct constrictor action on arterial smooth muscle[10], and methacholine, a parasympathomimetic agent which results in coronary vasospasm in both dogs[11] and man[12]. The effect of catecholamines and of adrenergic receptor blockade has been tested in animal models. In isolated perfused canine coronary arteries the smooth muscle of small coronary vessels was relaxed by both norepinephrine and epinephrine, and large coronary artery muscle was either contracted or relaxed. During beta adrenergic receptor blockade with nethalide small vessels did not react to the catecholamines or only contracted slightly, but large vessels contracted strongly. The authors conclude that the effect of catecholamines is via beta receptors and that beta blockade should cause vasoconstriction in major coronary arteries[13]. In another study done on intact dogs the coronary vasoconstrictor effect of dopamine was found to be blocked by phenoxybenzamine, an alpha receptor blocker, but persisted during beta receptor blockade[14].

Patients with recurrent attacks of variant angina pectoris also have been challenged with catecholamines. Attacks of variant angina pectoris were induced with subcutaneous epinephrine (0.7mg) in two patients. Prior administration of oral phenoxybenzamine (10 mg) prevented the attack in one patient, but propranolol failed to do so in both cases[15].

In four patients pretreated with propranolol (40 mg) subcutaneous epinephrine (0.7 mg) produced variant angina pectoris, and angiographic studies confirmed coronary artery spasm during these episodes[16]. A ninety per cent narrowing of the right coronary artery, found during cardiac catheterization, was reversed with phentolamine, an alpha receptor blocker, in a patient with angina both at rest and during exercise. Long-term phenoxybenzamine treatment resulted in improved exercise tolerance, but did not improve angina at rest[17].

It would appear from these studies that alpha adrenergic mediated coronary spasm may be responsible for at least some cases of variant angina pectoris and that beta blockade might therefore release alpha adrenergic receptors and worsen or precipitate coronary spasm. It is not surprising, therefore, that the use of beta blockers in the treatment of variant angina pectoris has been discouraged[18, 19].

However, studies in man have yielded no evidence that propranolol alone can cause an increase in coronary resistance[20]. Furthermore, there is no assurance that pharmacologically induced spasm is similar to spontaneous spasm[21].

Our two patients had dramatic and effective relief of symptoms of variant angina pectoris with the use of propranolol, and the first patient had no relief after alpha receptor blockade. To our knowledge there is only one clinical study available in which the investigators examined the effect of beta blockade in large doses in a significant number of patients with variant angina pectoris. Guazzi et al[22] evaluated fifteen patients with variant angina pectoris. Beta blockade was fully effective in relieving symptoms in seventy-three per cent of cases; in each of the responders angina reappeared after replacement of propranolol with placebo. These results are in contrast with the findings of others who reported failure with propranolol[2, 11, 17]. However, in these latter cases the daily dose was either moderate or not reported. Guazzi et al consistently used doses of propranolol of at least 160 mg a day in all successful cases and as high as 480 mg a day in some patients[22]. The patients whom we have reported were successfully treated only when the propranolol dose reached 280 mg a day.

Much of the confusion and controversy over the treatment of variant angina pectoris results from the fact that patients with the clinical diagnosis of variant angina pectoris have markedly varying degrees of coronary artery obstruction. In both of our patients only a mild to moderate degree of fixed coronary artery disease was demonstrated. Coronary spasm was identified angiographically in our first

patient and is presumed to be the cause of myocardial ischemia in the second patient. Studies cited have also shown patients with variant angina pectoris who have normal coronary arteries and patients with moderate and severe degrees of coronary obstruction. The mechanism by which beta receptor blockers prevent symptoms in variant angina pectoris is unknown[21]. As is demonstrated by our second patient, who after several months tapered his propranolol by himself, the course of variant angina pectoris may be unpredictable, and therapy should be reevaluated periodically.

Conclusion

We do not propose that these two cases represent definitive evidence that propranolol should now be considered as standard therapy for variant angina pectoris. However, until the pathophysiology of variant angina pectoris is elucidated, the therapy will remain empirical, and beta blockers could be considered if standard therapy fails.

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Pneumonia In Multiple Myeloma: A Case Report

Initial High Doses Of Antimicrobials Appear To Be Indicated For Pneumonia Complicating Myeloma

By Alan B. Weitberg, M.D.
Charles Diskin, M.D.

A 59 year old man presented with pneumonia, leukopenia, and anemia. Multiple myeloma was diagnosed by bone marrow aspiration and serum immunoelectro-phoresis. Streptococcus pneumoniae was recovered from the sputum by transtracheal aspiration, but the patient responded clinically only when high doses of penicillin were given.

This paper reviews patterns of infection in multiple myeloma, the immunology of this disease, and current guidelines for antimicrobial therapy. We suggest that aggressive efforts should be instituted to diagnose the underlying disease and isolate the pathogenic organism and that perhaps higher doses of antibiotics should be used initially to control the infection, reduce mortality, and possibly decrease the rate of recurrence.

ALAN B. WEITBERG, M.D., *presently a Junior Resident at Roger Williams General Hospital, Providence, Rhode Island*
CHARLES DISKIN, M.D., *Intern at Roger Williams General Hospital, Providence, Rhode Island*

Case Report

A 59 year old Caucasian man was admitted with a chief complaint of vomiting, shortness of breath, and pleuritic chest pain of three days' duration. He denied prior respiratory symptoms, sputum production, orthopnea, or homoptysis. One day prior to admission he developed a fever to 102° F associated with cough, but no chills.

On the evening prior to admission the dyspnea increased. He complained of weakness and lethargy associated with a twelve pount (5.4Kg) weight loss over the preceding year. He denied night sweats, anorexia, or exposure to tuberculosis. His past medical history and family history were unremarkable. Social history revealed a moderate alcoholic intake with no significant smoking history.

On physical examination the patient's temperature was 38.4‡ C orally, blood pressure was 150/90 mm Hg, pulse was 98 beats/minute and regular, and the respiratory rate was 28 breaths/minute and regular. He was a pale, 59 year-old man in moderate respiratory distress. Fundoscopic examination revealed mild arteriolar narrowing. A 1 × 1 centimeter, soft, movable

node was palpated in the right supraclavicular area. Scattered rhonchi were audible anteriorly and posteriorly on auscultation of the chest as well as decreased breath sounds and dullness to percussion over the lower half of the right chest posteriorly. Also noted was a shallow, soft, nontender suprasternal mass. The point of maximal impulse was not displaced, but the heart sounds were difficult to appreciate due to the intensity of the rhonchi. Abdominal examination revealed a firm, smooth liver edge 13 centimeters below the costal margin in the right midclavicular line. The spleen was not palpable , and bowel sounds were normal. There was no clubbing of the fingers or edema of the extremities, and the neurological and rectal examination revealed no abnormalities.

Initial laboratory data: The chest x-ray study revealed a consolidative process involving the right middle and lower lobes and multiple lytic lesions in the clavicles, scapulae, and ribs (Fig. 1). The electrocardiogram was unremarkable. Arterial blood gases on room air: pH 7.50, pO_2 51 mm Hg, pCO_2 20 mm Hg, and 88.5 per cent saturation. The total white blood count was 3,200/mm3 with 56 per cent bands, 26 per cent polymorphonuclear leukocytes, 14 per cent lymphocytes, 2 per cent monocytes, 1 myelocyte, and 1 metamyelocyte. Moderate rouleaux formation was noted. Serum electrolytes were as follows: sodium 122 mEq/L. Serum glucose was 110 mg per cent and the BUN was 34 mg percent. The hemoglobin was 9.3 per cent and the hematocrit was 27.6 per cent with normochromic, normocytic red blood cells on peripheral smear.

Hospital course: Due to the possibility of infection in a compromised host, a transtracheal aspiration was performed on the night of admission, which revealed gram-positive diplococci and a moderate number of polymorphonuclear leukocytes. Penicillin G 600,000 units was administered intravenously every six hours coupled with aggressive respiratory therapy. On the following morning a bone marrow biopsy and aspiration were performed, which revealed a diffuse, moderate increase in plasma cells highly suggestive of multiple myeloma (Fig. 2). Serum protein electrophoresis on a total serum protein of 10.5 per cent revealed an elevated gamma globulin fraction of 4.3 per cent (normal .7-1.7 per cent). Serum and urine immunoelectrophoresis revealed an IgG/kappa light chain monoclonal pattern with the serum IgG level being 6472 mg per cent (normal 710-1540 mg per cent) and no Bence Jones proteinuria. The erythrocyte sedimentation rate was 145, serum viscosity

Figure 1 Chest X-ray showing a consolidative process in the right middle and lower lobes and multiple lytic lesions in the areas described.

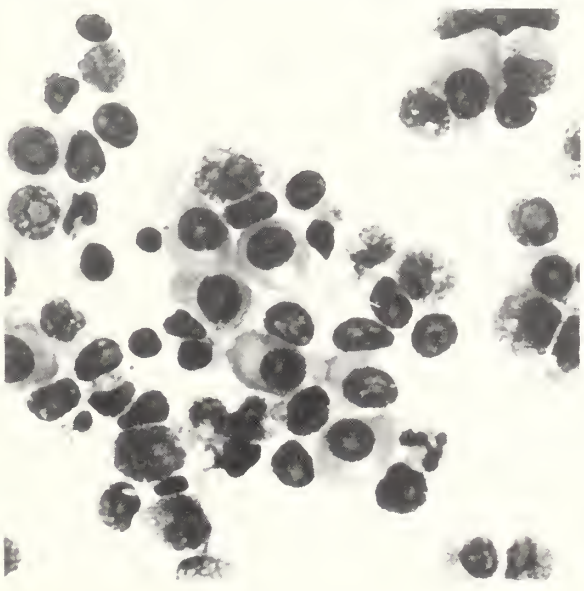

Figure 2 Bone marrow aspirate showing plasma cell hyperplasia. H&E, magnification 25X.

Figure 3 Chest X-ray revealing new infiltrative process in the left lower lung field.

was 1.9, and cryoglobulin determination was negative. By the second hospital day three blood cultures were growing Streptococcus pneumoniae.

By the fifth hospital day the patient's temperature was still elevated at 38.5° C with a total white blood count of 13,500/mm^3 and several plasma cells on peripheral smear. Chest x-ray film revealed minimal resolution of the consolidative process on the right and a new infiltrative process involving the left lower lung field (Fig. 3). A second transtracheal aspiration was performed on the seventh hospital day, which revealed few polymorphonuclear leukocytes and no organisms. At this point, the penicillin dosage was increased to 1.5 million units intravenously every six hours, and the patient's temperature declined to normal over the next forty-eight hours. By the tenth hospital day, the chest x-ray film showed partial resolution of the inflammatory process in both lung fields (Fig. 4.). A bone survey revealed multiple lucent lesions in the tubular and flat bones, and tomograms of the mediastinum demonstrated a large destructive mass in the sternum.

The patient remained afebrile and was much improved clinically. At the end of three weeks of hospitalization a regimen of Alkeran® 10 mg and prednisone 20 mg each day for five days was initiated to be repeated every four weeks.

Discussion

Infection is a common complication of multiple myeloma, most frequently involving the lower respiratory tract where the pneumococcus is most prevalent, although it has been shown that the number of hospital acquired gram-negative infections has risen sharply since 1963.[1] Twomey demonstrated that the annual infection rate in myeloma patients was fifteen times higher and contributed more significantly to mortality than in a control group.[1] In another series 7 of 11 infected myeloma patients with bacteremia and 6 of 15 patients without bacteremia died of their infection despite antibiotic therapy with previously effective dosages.[2]

Further, Glenchur in reviewing 51 cases of multiple myeloma noted that 6 percent of patients presented with pneumonia as their primary complaint and that 55 per cent of patients had one or more episodes of pneumonia during the course of their disease.[3] Similarly, Zinneman reported 44 episodes of pneumonia in 10 myeloma patients and noted that the rate of infection as well as the recurrences of pneumonia occurred regardless of the myeloma pattern.[4]

Immunologic data have clarified the reasons for increased morbidity and mortality resulting from infections in myeloma patients. First, it has been shown that these patients exhibit a poor antibody

Figure 4 Chest X-ray showing partial resolution of the inflammatory process in both lung fields.

response to antigenic stimulation.[5] This has been explained by decreased antibody synthesis and increased antibody catabolism in the various types of myeloma. In ∂ -myeloma, the half-life of normal 6.6S ∂ -globulin is reduced from 23 to 11-16 days. Conversely in macroglobulinemia, Bence Jones Myeloma, and β -myeloma the half-life is increased to 30.5 days, but the synthetic rate is decreased from .036 to .024 gm/kg/day.[6] Accordingly, Fahey, in studying 46 patients with macroglobulinemia, and Bence Jones, β, and ∂ -myelomas, found an inverse relationship between the antibody response and infection rate compared to a control hospital population.[5]

Secondly, the increased serum globulins in multiple myeloma differ from normals by chemical, physical, and immunochemical standards, and the levels of normal gamma globulin components have been shown to be lower in these patients.[5] These data indicate that the increased rate of infection is related to plasma cell dysfunction characterized by decreased antibody response, production of immunologically incompetent anomolous protein, and low levels of normal globulin components.

From the foregoing discussion the need for early identification of the myeloma patient and pathogenic organisms causing infection and prompt initiation of antimicrobial therapy become readily apparent. Our patient presented with pneumonia, but certain aspects of the history and laboratory examinations alerted us to the possibility of an underlying malignant condition and multiple myeloma in particular. In the face of infection it becomes urgent to establish the diagnosis. Although bone pain frequently is an initial symptom, by the time it appears the disease usually is far advanced. Infection may be an early complication of multiple myeloma, as it has been shown that the immune system is depressed in rats within one month of the transplantation of plasmacytomas.[7] Similarly, weakness and fatigue together with anemia were present initially in two-thirds of myeloma patients in a large Mayo Clinic study.[8] Our patient exhibited the latter finding. Coupled with the roentgenographic findings it prompted an investigation for multiple myeloma, which was documented subsequently.

As already stated, some authors have noted an increasing rate of gram-negative infections in these patients. Once we had established that our patient was an immunologically compromised host, it became crucially important to identify definitively the offending organism. For this reason a transtracheal aspiration was performed. We suggest that aggressive intervention when possible be instituted to establish a microbial diagnosis.

With respect to antimicrobial therapy, this case highlights several points. In previous studies of infections in general and pneumonia in particular in myeloma patients, the mortality rate was high and the recurrence rate increased, often with the same type-specific organism, in spite of the use of standard doses of antibiotics.[4] Zinneman suggests that "the failure to develop humoral antibodies may prevent the complete elimination of pneumococci in spite of penicillin and other antibiotics."[4] If this is the case, perhaps higher doses of antibiotics should be employed initially to eradicate the organism and decrease the rate of recurrence and incidence of mortality. Our patient did not respond clinically to a standard dose of penicillin, and in fact his pneumonia progressed. After ruling out the possibility of superinfection, the pencillin dosage was increased, resulting in a good clinical and roentgenographical response. It will be interesting to follow this patient and see if he has a decreased rate of recurrent pneumonia.

Summary

The increased rate of infection and mortality associated with it has been well documented in multiple myeloma patients. Immunologic data offer the best explanation for this heightened susceptibility. Accordingly, we have presented a case which emphasizes the need for rapid identification of multiple myeloma in a patient presenting with pneumonia.

We suggest, in the absence of well-controlled studies, that standard doses of antibiotics may not be adequate to achieve a good clinical response in myeloma patients with pneumonia and that perhaps high dose antimicrobial therapy should be employed initially to control the infection, decrease mortality, and reduce the rate of recurrence.

Acknowledgement

We wish to thank Sally Virta and Grant Jolly for their technical assistance in the preparation of the photographs for this paper.

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ANSWERS TO DERMAQUIZ

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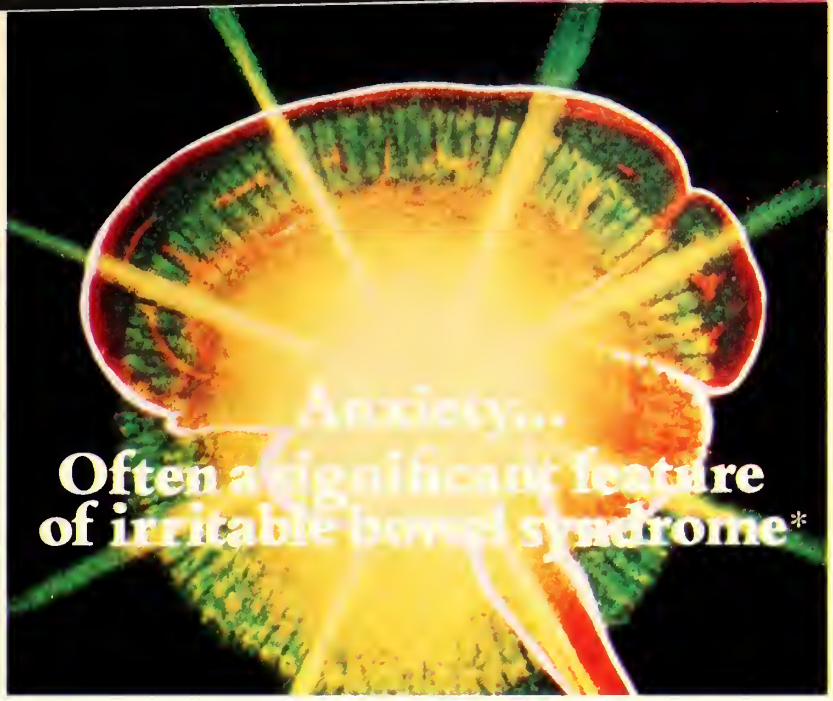

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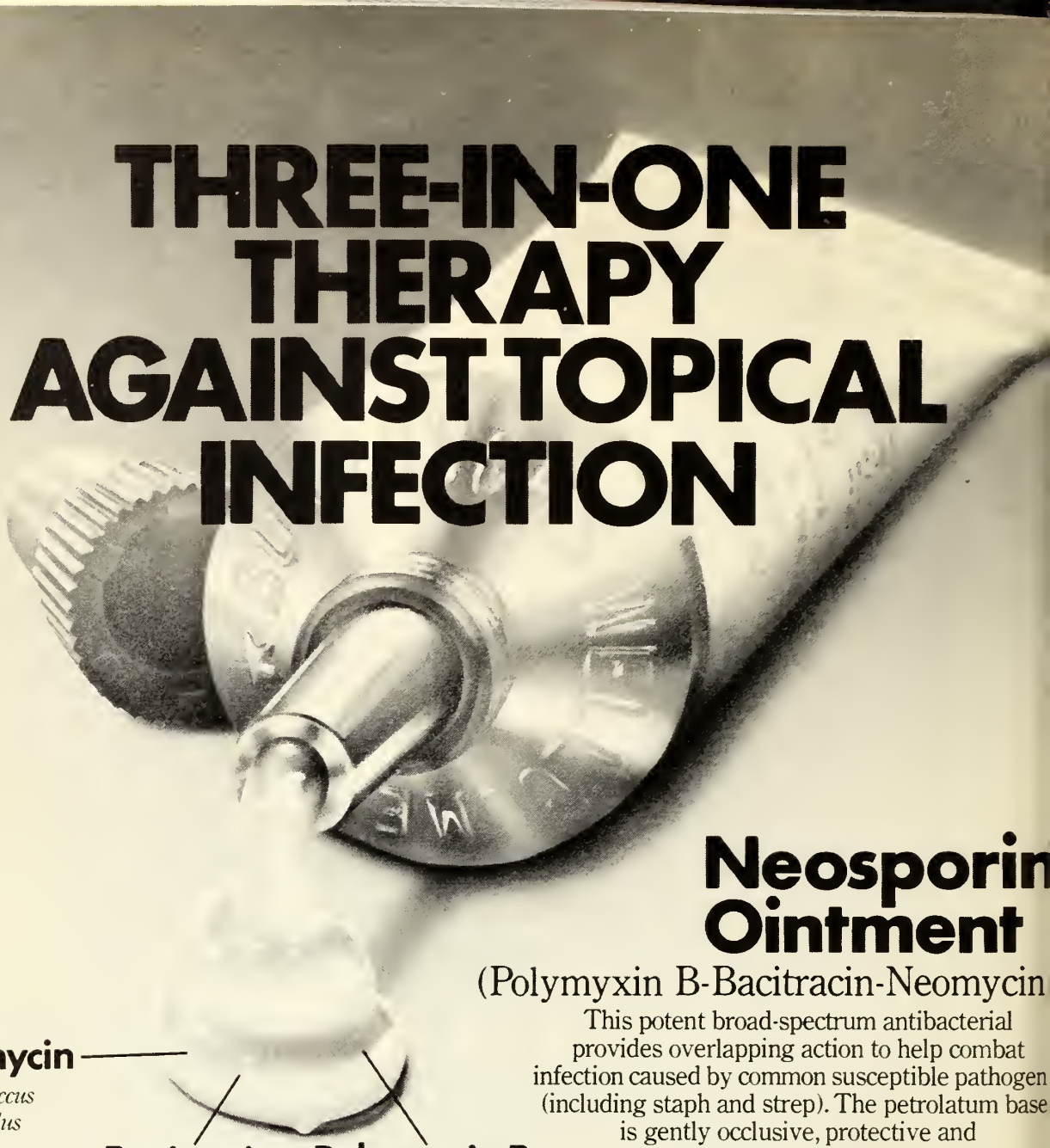

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Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

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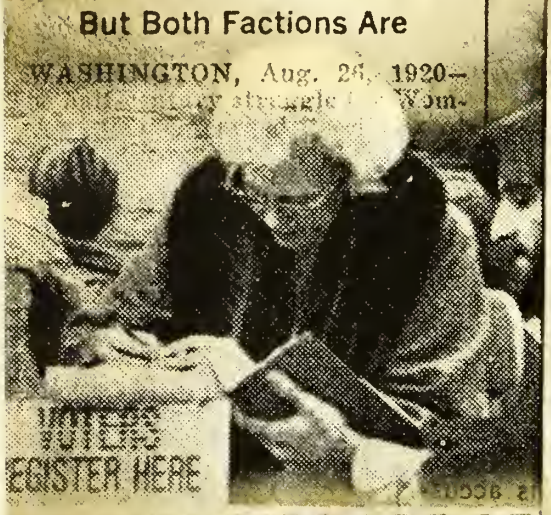

Social Security Bill Is Signed, Gives Pensions to Aged, Job

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Meeting Gives Standing Ovation as Executive Pictures Peace Gain

"If we fail to use it," he declared to the solemn final meeting of the delegates, 'we shall betray all of those who have died in order that we might meet here in freedom and safety to create it.'

"If we seek to use it selfishly—for the advantage of any one nation or any small group of nations—we shall be equally guilty of that betrayal."

Fervent Interpolation

The President, speaking in the auditorium of the War Memorial Opera House, built in memory of sons of the Golden Gate city who gave their lives in the first World War, in which he himself served, seemed to give unconscious expression to the solemn feeling of the occasion when, at the outset of his speech, he interpolated the words, half a hope, half a prayer:

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There are also some potential problems. Obviously, the inserts must be clearly phrased, without extraneous or complex detail. How much information is enough? How can it be kept current? Should all patients receive the same information? Should inserts be included with all drugs? Should only potential problems be listed or are patients better off with a "fair balance" presentation that describes usefulness as well as drawbacks?

These and similar questions require answers, since model inserts have yet to be properly developed and tested. Despite the need for these studies, the FDA is proceeding prematurely with inserts on selected products. We think the Congress is the only place where the matter can be given the proper legal status and direction, particularly since it represents a conceptual change in the legal, medical and social framework of the nation's prescription drug information system.

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Editorials

SUICIDES BY YOUTHS

Suicide is a major problem and in our culture it is becoming increasingly worse. Not infrequently, especially in the young, the act of suicide is meant as an act against a person to whom one has highly ambivalent feelings of love and hate, which get expressed in a self-destructive manner. A planned suicide is especially ominous. I recall a male youth in his early twenties who was very depressed "over a turn of events" in a love relationship and planned with the utmost detail how he would do himself in by "gas"ing himself at a time when his friend would be away for the weekend. After locking all doors, plugging all orifices in the apartment, he took an overdose of hypnotics and turned on the gas stove. His roommate came back from a weekend sabbatical prematurely and saved the patient from what was imminent death.

The medical literature is voluminous about different medical and therapeutic techniques — crisis intervention and prevention plans, most of which have to do with establishing good rapport, working with "significant others" involved in the person's life, and focusing on reduction of the person's "lethality" during crisis. The whole subject is awesome and almost overwhelming, especially the rising incidence of suicide by youths. My own professional experience has taught me that the very young often see death as something very remote and certainly not final. T.V. and other media seem to be feeding into their fantasies and either directly or indirectly giving them permission to turn violence inward and/or outward. Perhaps if the caring professions work together as a team in a primary prevention manner, emphasizing the value of life with its alternatives other than death, particularly in the most vulnerable — depressives, alcoholics, youths — then we may be able to make a contribution.

Peter P. Reilly, MD

CIMETIDINE AND STRESS ULCERATIONS

Cimetidine, an H_2 receptor antagonist, has been an important addition to the armamentarium available for the management of peptic ulcer. Since neither its full potentialities or limitations can yet be fully gauged, every new observation is of interest.

Acute gastric ulcerations caused by stress have been a serious and troublesome problem, and they appear to be occurring with increasing frequency. Advances in the treatment of the severely ill have compounded the problem of bleeding from stress ulcers, whether from severe trauma, sepsis, jaundice, shock, burns, head injury, or severe pulmonary insufficiency. Ulcerations may develop in up to 100 per cent of such patients, with significant hemorrhage occurring in 5 to 15 per cent, and a mortality of more than 50 per cent in those with massive bleeding. The mechanism of stress ulcers is still not clearly defined, but the news of a likely remedy is welcome indeed.

Strauss et al[1] in controlled experiments in rats produced stress ulcerations by a combination of cold and restraint. This regime produced an increase in gastric acidity and the appearance of multiple stomach ulcerations. The cimetidine was introduced intraorally in various treatment regimes using the drug prophylactically. The drug used in this way prior to the onset of stress and sacrifice resulted in a significant reduction in the incidence of gastric ulceration. The effect

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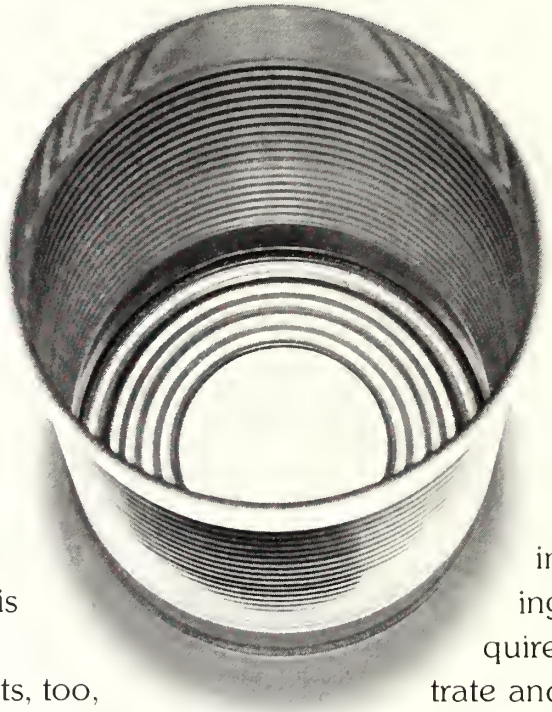

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was measurably greater than that produced by antacids.

The authors have not yet tried the drug in clinical cases, but purpose to do so in the near future.

Delaney,[2] however, has reported the use of intravenous cimetidine in an uncontrolled series of fourteen patients manifesting massive bleeding from hemorrhagic gastritis. The patients bled an average of 7000 ml of blood prior to treatment, and thus, according to the authors, served as their own controls. They had previously been subjected to a variety of treatments for the bleeding involving antacids and intraarterial pitressin. Four of the cases had been operated upon to stop the bleeding, but continued to bleed massively. Of the fourteen patients, ten stopped bleeding and did not bleed again, two stopped bleeding but bled again, and two continued to bleed, a complete success in 10 of 14 refractory cases.

It would thus appear that we have on the horizon an effective prophylactic and treatment preparation with which to control an harrassing complication of the desperately ill.

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[1]Strauss RJ, Stein TA, Wise L: Prevention of stress ulcerations using H_2 receptor antagonists. **Am J Surg** 135:120, Jan 78.

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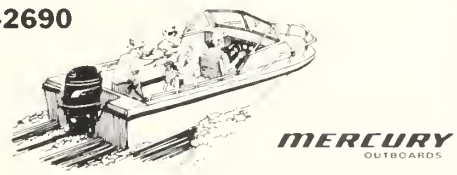

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Guest Editorial

HOSPITAL PRIVILEGES FOR FAMILY PHYSICIANS

The recognition of Family Practicc as the latest specialty in Medicine has resulted in considcrable misunderstanding. In many parts of the country, there has been much in-hospital fighting concerning privileges for the man trained in the specialty of Family Practice.

The many medical schools and hospitals which have established residency programs in this new specialty have a moral commitment to these young physicians to support them in gaining admission and privileges to hospital staffs.

The sudden governmental withdrawal of funds for fellowships and other residency programs and the marked emphasis on family practice and primary care forced many institutions to undertake a family practice program. However, some of these institutions are now confronted with these graduates who wish hospital privileges where the family physician has not been admitted before. These same institutions which have trained these men must now decide what to do. Certainly, fairness demands that they accept them or else not certify that they have successfully completed their training. If the doctors have fulfilled the requirements of the curricula established by these institutions, and now seek to work in areas where they have demonstrated their competence, there is no justifiable way for them to be denied privileges.

The American Academy of Family Practice has addressed this issue quite clearly: "The Academy believes that a graduate of an approved Family Practice Residency Program should be given the opportunity to demonstrate his own ability and competence for those privileges which he requests and in which he has training. If the Family Physician is denied the opportunity to so demonstrate his ability, the Academy will defend him to the fullest, including legal action if it is deemed necessary by the Board" (1976).[1]

The role of the family practitioner in obstetrics has recently evoked interest. Many young physicians have found that they have been denied privileges despite their certification of qualification from their residency supervisors. Paradoxically, in Rhode Island a law has just been enacted which allows midwives to attend delivery in normal pregnancies and to care for the mother and child. In view of this it is going to be difficult to rationalize how privileges in obstetrics can be denied to a graduate of a residency in Family Practice who has certification from his Program Director as to his competence. Certainly, if a midwife can deliver babies at home, where she has no ancillary or supportive services, a physician should be capable of doing the same in a hospital setting where he has all of the modern technological support.

The fervor with which hospital orthopedic services refuse privileges to men trained in setting simple fractures or the procedure of arthrocentesis is bewildering. No one should be allowed to do the esotoric prodedure for which only the specialists have been trained. These simple procedures, which were formerly thought to be esotoric, have now become commonplace with the longer training period for the Family Physician.

These are not the only aspects of medicine about which there is conflict. There are many others, but the ones cited succinctly illustrate the point.

This internecine struggle within our profession must cease, since there are too many trying to destroy us from the outside. It is high time we conducted ourselves rationally and with dignity and do unto others as we would have them do unto us. Let each man do only that which he is capable of doing, but let us not deny him privileges through subterfuge. The medical schools and their faculties, the hospitals and their staffs which have trained this new specialist in Family Practice have the same moral obligation to

support him as they do any other well-trained specialists. They have certified him as being competent and capable of performing these tasks by allowing him to complete their training program. If they do not accept him, they should discontinue their programs and refuse the subsidy offered for this undertaking.

Some have proposed that the future family physician/primary-care physician continue his or her practice principally or exclusively to the ambulatory care setting while serving in a triage role as the entry point to the health-care system.[2,3]

Such approach, would, in the long run, compromise the continued clinical competence of these physicians and their ability to provide primary care of high quality to their patients. The sharp separation of medical careers into the community-oriented ambulatory care and hospital-based intensive care of acutely ill patients would involve serious problems for both medical practice and medical education. The creation of a system with built-in discontinuity between ambulatory and hospital patient care could be expected to jeopardize the quality of care, increase its cost, decrease patient compliance, and further depersonalize care. Although it is theoretically possible that the ambulatory-care physician could transmit all necessary medical information to the hospital-based physician regarding each hospitalized patient, this procedure would not be likely to happen in everyday practice. It is more probable that hospital care would be further overutilized, important medical problems overlooked, unneeessary studies performed, and the patient further confused by an encounter with an unknown physician at a time of major personal crisis. Although research on the effect of continuity is still embryonic, studies already reported that costs of medical care, as well as patient satisfaction and compliance, are adversely affected by lack of physician continuity.[4,5]

At the May 17, 1978 Annual Meeting of the Rhode Island Medical Society, the section on Family Practice will present to the membership of the Society Doctor Boyd A. McCracken of Springfield, Illinois, a member of the Board of Directors of the American Academy of Family Physicians. Doctor McCracken will address the issue of hospital privileges for Family Physicians. We cordially invite members of our medical fraternity to hear this discussion.

Charles E. Millard, M.D.,A.B.F.P.

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[3]Proger S: A career in ambulatory medicine. **N Engl J Med** 292 (25):1318-24, 19 Jun 75.

[4]Alpert JJ, Kosa J, Haggerty RF, et al: Attitudes and satisfactions of low-income families receiving comprehensive pediatric care. **Amer J Public Health** 60:499-506, Mar 70.

[5]Heagarty MC, Robertson LS, Kosa J, et al: Some comparative costs in comprehensive versus fragmented pediatric care. **Pediatrics** 46:596-603, Oct 70.

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ONE SENTENCE ESSAYS

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Patient is in the recovery phase of her crisis, but has regressive potential until she can develop better and more age appropriate mental mechanisms.

. . . Extracted from psychiatric history of a 13 year old girl.

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. . . footnote on paper by David T. Burack, MB, D Phil, on "The Weight of Medical Knowledge," **N Eng J Med** 298:773, 6 Apr 78.

Book Review

LABOR AND DELIVERY — AN OBSERVER'S DIARY. WHAT YOU SHOULD KNOW ABOUT TODAY'S CHILDBIRTH by Constance A. Bean. Garden City, Doubleday, 1977. $7.95.

This volume is written by a public health educator who has focussed her interests in childbirth education, labor support, natural childbirth and family centered maternity care. It is a rambling diary of selected labors, deliveries, and a few operations in various hospital settings as well as an account of the author's participation in a home delivery.

Ms. Bean trumpets the rewards and satisfaction of the shared experience of labor and birth using labor coaches, husbands, and surrogates educated to assist the parturient during labor and the birth process. She advises eschewing the use of medication, obstretic interference, and anesthetic agents unless forced by the most constricted circumstances. She obviously is a crusader and makes no bones about her animated differences with modern obstetric practices, technics, and concepts.

Ms. Bean exhibits unusual antipathy for routine episiotomy, spinal and epidural anesthesia, delay in cord clamping, use of pharmacologic agents for sedation and analgesia, use of forceps to shorten the second stage of labor, and the various routines of hospitals to safeguard the mother and the infant, such as fetal monitoring. One can heartily endorse her overwhelming desire to have the labor and birth experience a satisfying event and one full of meaning for the mother and infant as well as the husband (or surrogate). Since she is not required to bear any primary responsibility as a labor coach for the maternal fetal outcome, however, one must discount her enthusiasm for a process which, although usually physiologic, is associated with a mortality rate for the feto-neonate which is higher than he or she will ever again encounter until after the sixth decade of life.

In discrediting many of the practices and technics of the modern-day obstetrics, Ms. Bean bases her opinions on references in the literature which are out of date or of so sporadic a nature as to be anecdotal. Many of her generalizations regarding the Leboyer Method, routine episiotomy, and the effects of the second stage of labor on fetal physiology are at least quaint and for the most part at variance with current knowledge and data and will mislead impressionable young couples.

No matter what her intentions Ms. Bean, an invited observer in several hospitals, undermines and erodes the faith and confidence so vital to hospital-physician, patient-family relationship. Her several tasteless and unprofessional descriptions of patients in labor and her amorality in the deceitful use of a female laboratory technician to spy on medical student lectures, diminishes her credibility and her integrity.

Thus the satisfying and moving experience of family-centered childbirth is often disfigured by Ms. Bean's insidious and invidious tactics and her occasionally unenlightened observations and pronouncements.

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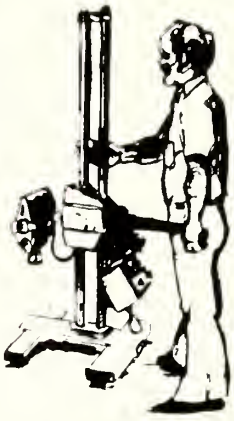

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Report Of The House Of Delegates

Meetings March 15, 1978

A meeting of the House of Delegates of the Rhode Island Medical Society was held on Wednesday, March 15, 1978 in the Rhode Island Medical Society auditorium.

The meeting was called to order by the Speaker of the House, Dr. Leonard S. Staudinger at 2:15 p.m.

Delegates in attendance were: Drs. James R. Hagerty, Joseph R. Peltier, Klaus F. Hass (substituting for Wilhelmus A. VanHaaren), William F. Varr, George P. Lewis, Jr., Charles P. Shoemaker, Richard E. Kuhn, Pasquale J. Celestino (substituting for Louis A. Morrone), Erwin Siegmund, Douglas Rayne, John L. MacIver, Frank W. Sullivan, Joseph E. Caruolo, Melvyn M. Gelch, Herbert F. Hager, Charles J. Ashworth, Jr., Alphonse R. Cardi, George N. Cooper, Jr., John J. Coughlin, Frank G. DeLuca, John E. Farley, Jr., Donald P. Fitzpatrick, Charles L. Hill, Harry M. Iannotti, Jerry M. Kheradi, Maurice W. Laufer, William J. MacDonald, Betty B. Mathieu, Daniel Moore, Jr., Wilma S. F. Rosen, Guy A. Settipane, Richard P. Sexton, Rajnikant Shah, Hugo Taussig and Joseph R. Tucci.

Delegates absent were: Drs. Leonard Parker, Peter B. Baute, Richard W. Perry, H. Gerald Rock, W. A. VanHaaren (excused), Richard T.Zuerner, Robert S. Burroughs, Juan Medina, Paul J. M. Healey, Nathan Sonkin, Louis A. Morrone (excused), Orazio Basile, Alban J. LeBlanc, Constantine Pagonis, Charles B. Round (excused), Thomas G. Breslin, Erminio Cardi (excused), William S. Klutz (excused), Joseph Lombardozzi, Richard T. McDermott (excused), H. Raymond McKendall, Anthony F. Merlino (excused), P. Joseph Pesare, Robert W. Riemer (excused), Henry J. Robidoux, Robert S. Rosenberg (excused), Louis V. Sorrentino (excused), William Q. Sturner, Richard L. Testa, Melvin D. Hoffman, Serafino Garella, and James F. Valicenti.

Commissioners in attendance were: Drs. Donald P. Fitzpatrick, George N. Cooper, Jr. and Daniel Moore, Jr.

Commissioners absent were: Drs. Kenneth Liffmann (excused) and Anthony F. Merlino (excused).

Members Ex Officio present were: Drs. Seebert J. Goldowsky, John J. Cunningham, Herbert F. Hager and William J. MacDonald.

Member Ex Officio absent was Dr. Joseph E. Cannon.

Specialty Society Representatives in attendance were: Drs. Frank P. Duffy, John J. Coughlin (substituting for Marshall A. Taylor), James B. Leach, John E. Farley, Jr., Donald B. Singer, Eufrocino N. Beltran, Augustine M. McNamee, Jorge E. Alonso, Guy A. Settipane, Charles L. Hill, Joseph E. Caruolo, and Walter C. Cotter.

Specialty Society Representatives absent were: Dr. Marshall A. Taylor (excused), Howard S. Browne, Jr., Charles E. Millard (excused), Bencel L. Schiff, Arthur I. Geltzer, Paul J. M. Healey and Ben C. Claunch.

Also present were: Jim McGovern and Jim Clarkin.

The Speaker asked the delegates to rise for a moment of silent prayer in memory of and recognition of Dr. Nathan Chaset, a former president of the Rhode Island Medical Society, and one who held deep concern for its welfare and progress, who died unexpectedly a few weeks ago.

Approval of Minutes of the Previous Meeting

The Speaker noted that the minutes of the February meeting of the House has been printed and distributed by the Secretary.

Action: A motion was made, seconded and voted that the minutes of the February 1, 1978 meeting of the House of Delegates be approved and placed on record.

Report of the Secretary

The Speaker noted that the report of the Secretary was included in the handbook.

Dr. Frank W. Sullivan briefly reviewed the status of the following legislation: Confidentiality Bill, Malpractice Act Amendment, Chiropractic Bill, Certificate of

Need Bill, Disclosure of Physician's Fees Bill and the Laetrile Bill.

Action: A motion was made, seconded and voted that the report of the Secretary be approved and placed on record.

Report of the Treasurer

The Speaker noted that the report of the Treasurer was included in the handbook.

Dr. Melvyn M. Gelch, Treasurer, apprised the Delegates that the Subcommittee on Budget and Finance, consisting of himself, Dr. Peter L. Mathieu, Jr. and Dr. Charles L. Hill, had investigated another source for the handling of the Society's investment funds. He indicated that the Providence Group, an investment advisory group, was impressive and requested approval of the House for the Subcommittee to make a decision on this matter without going back to the Council and subsequently back to the House.

Action: A motion was made, seconded and voted that the Council review the pros and cons of the subcommittee's recommendations, and if satisfied, give its approval for the subcommittee to proceed without bringing the matter back to the House of Delegates.

Action: A motion was made, seconded and voted that the report of the Treasurer, as submitted, be approved and placed on file subject to audit.

Recommendations of the Council

1) Slate of Officers and Standing Committees

No counter nominations were offered to the slate of officers and standing committees as recommended by the Council.

Action: A motion was made, seconded voted that the Secretary cast one vote indicating the House of Delegates approval of the slate of officers and standing committees presented by the Council.

The Speaker apprised the House of Delegates that this was the last House meeting at which Dr. Frank W. Sullivan would preside in his capacity as president of the Society. On behalf of the House he thanked Dr. Sullivan for his outstanding leadership and his diligent and positive direction of the Society's activities and concerns during his term in office. The House of Delegates noted their approval with a standing ovation.

Report of Committees

The Speaker noted that there were committee reports in the handbook for the information of the members but none called for any specific action by the House.

Action: A motion was made, seconded and voted that the written reports of the following committees, as submitted to the House, be received and placed on record: Library Committee (including the Report of the Librarian) and the Physician's and Carrier's Workmens Compensation Committee.

Resolutions

The Speaker presented one resolution which has been submitted by Dr. Melvin D. Hoffman and unanimously approved by the Council at its meeting on March 6, 1978.

Resolution: "Be it resolved that the Council of the Rhode Island Medical Society acknowledges with great esteem the operation of the medical telephone exchanges in the state for their selfless dedication and sacrifice in continuing constant communication between physicians and their patients during the recent disastrous storm".

Action: A motion was made, seconded and voted to approve the resolution of Dr. Melvin D. Hoffman relative to the Medical Exchange Operators.

The Speaker announced that those members of the House who so desired, were welcome to attend the annual meeting of the Blue Shield Corporation convening at 5:00 p.m.

There being no further business, the meeting was adjourned at 3:10 p.m.

Respectfully submitted:
Melvin D. Hoffman, M.D.
Secretary

NOTICE

By oversight the minutes of two meetings of the House of Delegates held in 1977 were not published in the **Rhode Island Medical Journal.** We apologize for this ommission. Henceforth minutes will appear regularly following each meeting. Ed.

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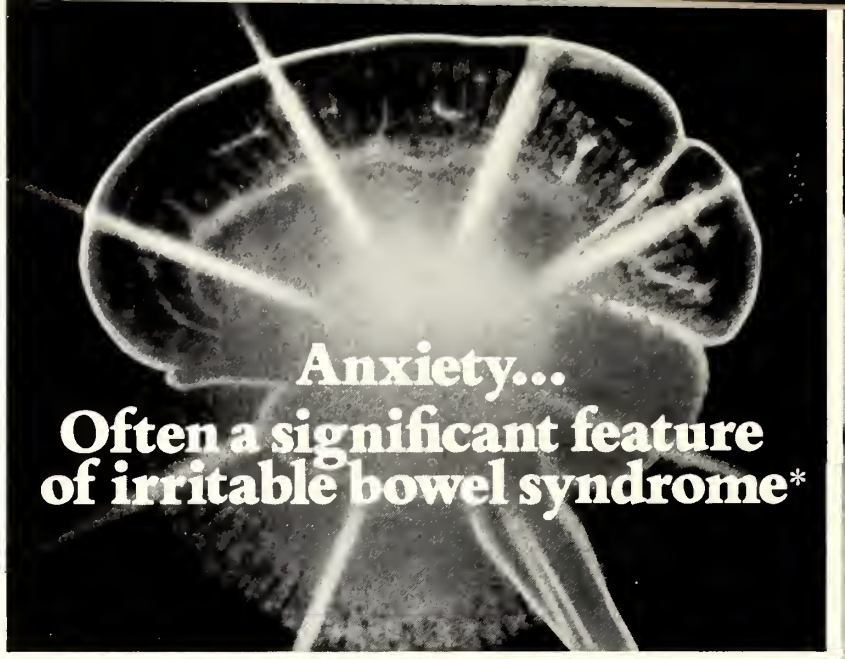

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Contraindications: Glaucoma, prostatic hypertrophy, benign bladder neck obstruction, hypersensitivity to chlordiazepoxide HCl and/or clidinium Br.

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As with all anticholinergics, inhibition of lactation may occur.

Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship not established.

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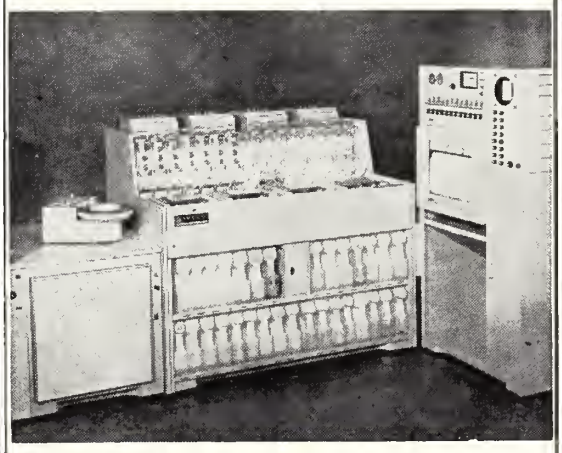

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Rhode Island Medical Journal

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DIVISION OF BIOLOGY AND MEDICINE

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A Message From The Dean

BROWN PROGRAM IN MEDICINE:

THE CLASS OF 1978

A deep delight and sense of gratitude emerges as we anticipate the graduation of Brown's fourth group of physicians. The sixty-three students in the MD Class of 1978 are proudly identified in this issue of the Journal. Each of these men and women has successfully completed a rigorous and difficult four years of disciplined training, some 7,400 formal hours of supervised experience in the theory and realities of human illness. One portion of this training took place in conventional classroom and laboratory settings; most of it, however, was accomplished in the intimacy of preceptorships with individual students and clinicians working closely together. A unique and profound learning experience seems to be generated by this kind of educational interaction. It yields gratifying personal fulfillment for all participants, and has now emerged as the major teaching mode in the Brown medical program. In addition to the full-time faculty, about 400 practicing physicians of the greater Rhode Island community generously work to guarantee the success of this perceptorship effort.

The faculty's sense of fulfillment which accompanies this graduation arises from the knowledge that these sixty-three students have made intelligent use of their four years of training; that they are endowed with sufficient wisdom to distinguish between the limited amount they have learned and the vast amount yet to be learned; that they are profoundly aware of the broader nonbiologic forces within society which are formidable determinants of health or its lack; that they know the importance to medicine of scholarly pursuit in domains other than medicine; that they are as responsive to pain as they are to joy; and finally, that the ocasionally dehumanizing hardships of these years of formal education will have sensitized them to the multitude who will seek their services.

Edna St. Vincent Millay once said:

> Upon this gifted age, in its dark hour,
> Rains from the sky a meteoric shower of facts.
> They lie unquestioned, uncombined,
> Wisdom enough to leech us of our ill
> Is daily spun, but there exists no loom
> To weave it into fabric.

We have provided our gifted students with a meteoric shower of facts. It will be for them to provide the loom.

On behalf of the Brown Program in Medicine faculty, I am pleased and honored to welcome this class of 1978 to the ranks of medicine, confident that both society and our profession shall benefit by their presence.

Stanley M. Aronson, MD
Dean of Medicine
Brown University

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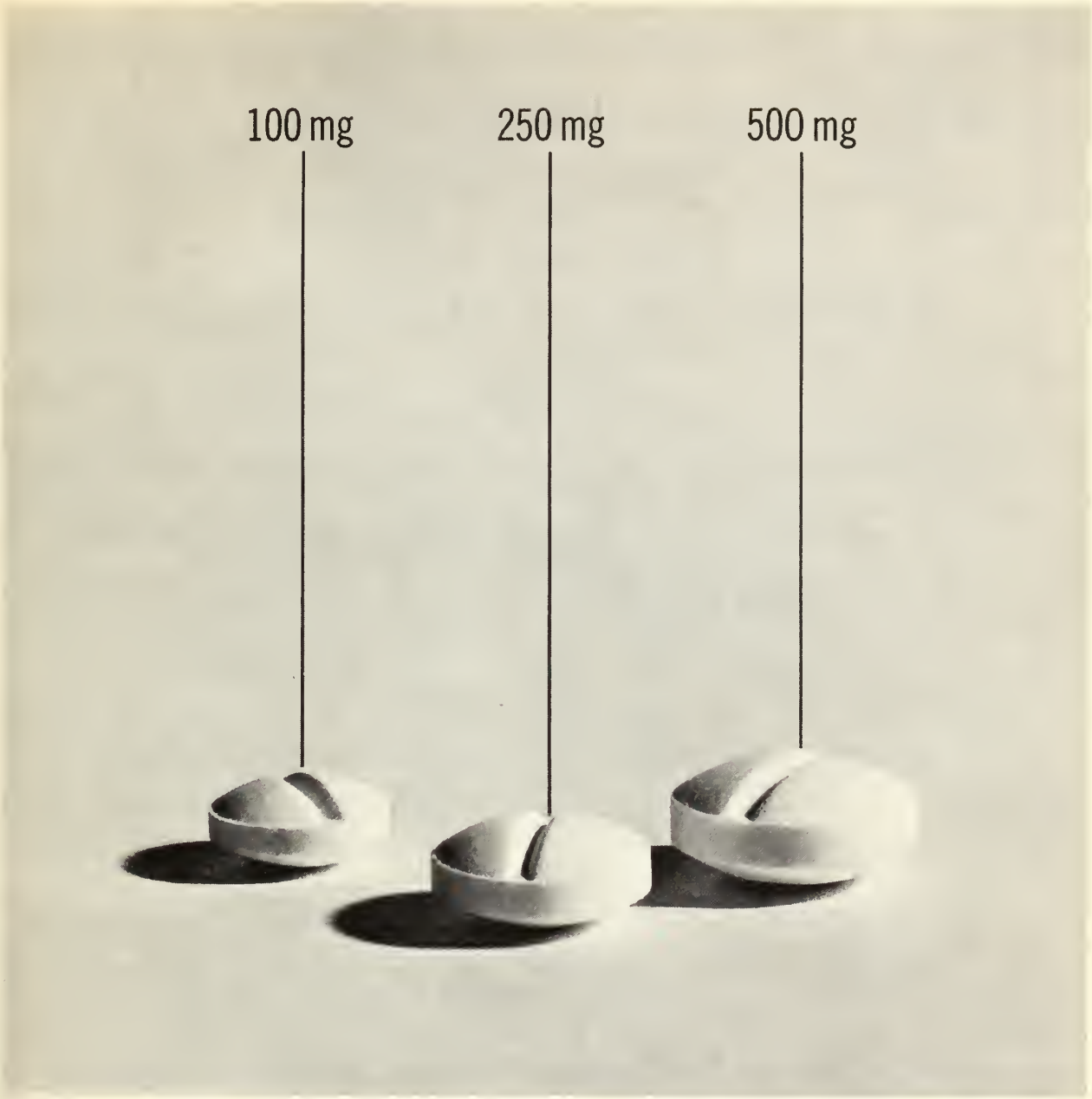

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Doc^{r} Harvey Phisicion to this hospitall presented to this court c'taine orders or articles by him thought fitt to be obs'ved and putt in practize —viz—

1. That none be taken into the hospitall but such as be curable or but a c'taine number of such as are incurable.
2. That those that shalbe taken in for a c'taine tyme be discharged at that tyme by the hospitler, unless they obtayne a longer tyme; And to be discharged at th'end of that tyme alsoe.
3. That all such as are c'tefied by the do^{r} uncurable & scandelous or infeccous shalbe putt out of the said howse, or be sent to an out-howse; And in case of suddaine inconvenience this be done by the do^{r} or apothecary.
4. That none be taken into any outhowse on the charge of this hospitall, but such as are sent from hence.
5. That no chirurgion, to save himselfe labour, take in or p'sent for the do^{r}; otherwise the charge shopp wilbe soe greate, & the successe soe little as it wilbe scandelous to the howse.
6. That none lurke here for releife only or for slight causes.
7. That if any refuse to take theire phisick they may be discharged by the do^{r} or apothecary or punished by some order.
8. That the chirurgions in all difficult cases, or where inward phisick may be necessary shall consult with the Do^{r} at the tymes he sitteth once in the weeke, & then the M^{r} himselfe relate to the Do^{r} what he conceaveth of the cure & what he hath done therein, And in a decent & orderly manner p'ceed by the do^{rs} dirreccions for the good of the poore and creditt of the howse.
9. That no chirurgion or his man doe trepan the head, peirce the body, dismember or doe any greate oper'cion on the body of any but wth th' app'bacon & by the direcion of the Do^{r} (when conveniently it may be hadd) & the chirurgions shall thincke it needfull to require.
10. That no Chirurgion or his man practize by givinge inward phisick to the poore, w'hout th' App'bacion of the Do^{r}.
11. That noe Chirurgion be suffered to p'forme the cures in this howse by his Boy or s'rvant w'hout his owne ov'sight or care.
12. That ev'ry chirurgion shall shewe & declare unto the Do^{r}, whensoev^{r} he shall in p'sence of the patient require him what he findeth & what he useth to ev'ry external malady; that soe the Do^{r} beinge informed may better w^{h} judgm^{t} order his p'scrpts.
13. That ev'ry Chirurgion shall followe the direcions of the Do^{r} in outward oper'cions for inward causes, for recov'y of ev'y patient under theire sev'all cures, & to this end shall once in the weeke attend the Do^{r}, at the sett howre he sitteth to give dirrecions for the poore.
14. That the Apothecary Matron & Sisters doe attend the Do^{r} when he sitteth to give direccons & pr'scripts, that they may fully conceave his direccions & what is to be done.
15. That the Matron & Sisters shall signifie & complaine to the Do^{r} or Apothecary in the do^{rs} absence if any poore lurke in the howse, & come not before the Do^{r} when he sitteth or taketh not his phisick but caste it away & abuse it.
16. That the Apothecary keepe secrett & doe not disclose what the Do^{r} pr'scribeth nor the p'scripts he useth but to such as in the Do^{rs} absence may supply his place & that wth the Doctors approbacion.

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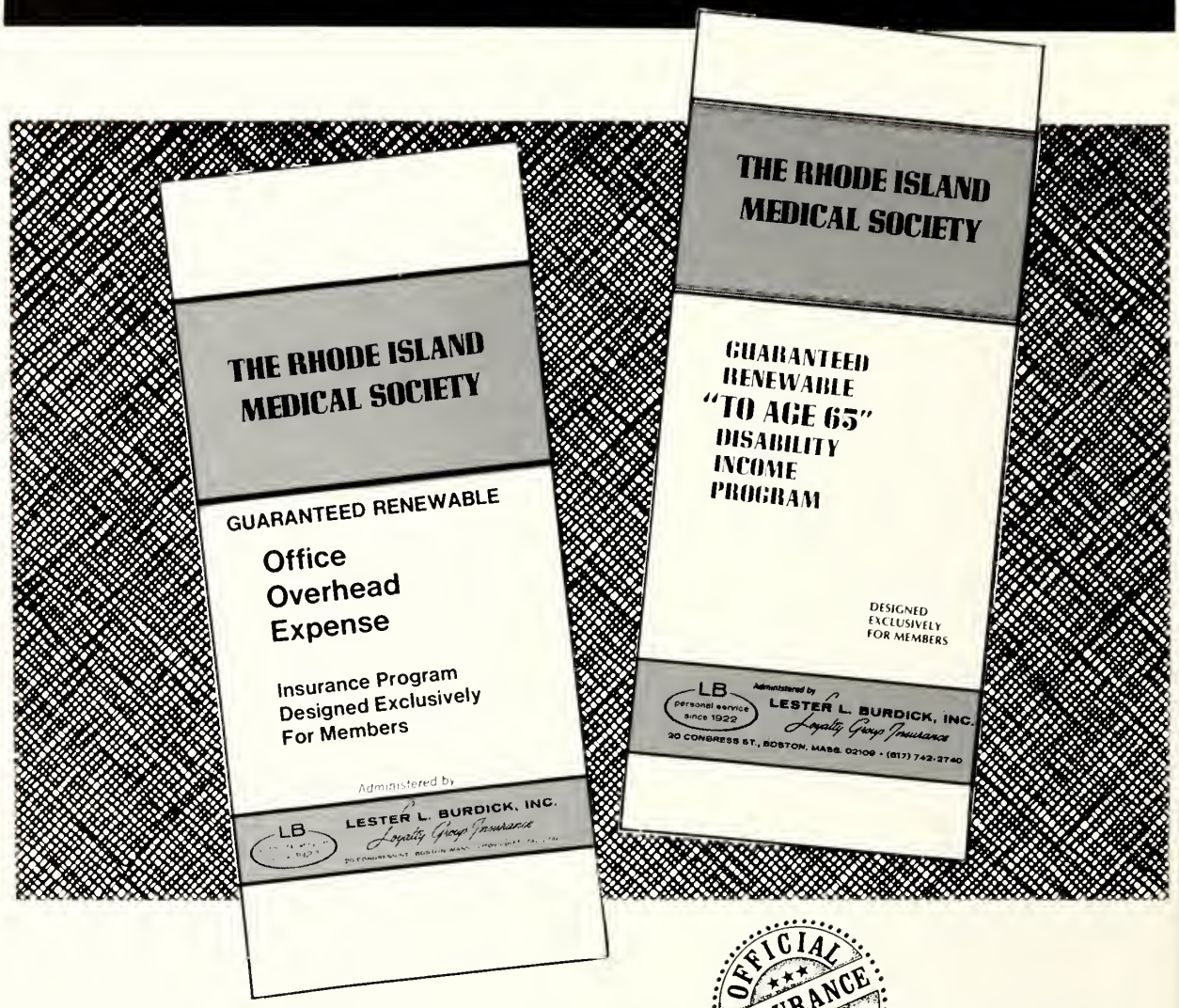

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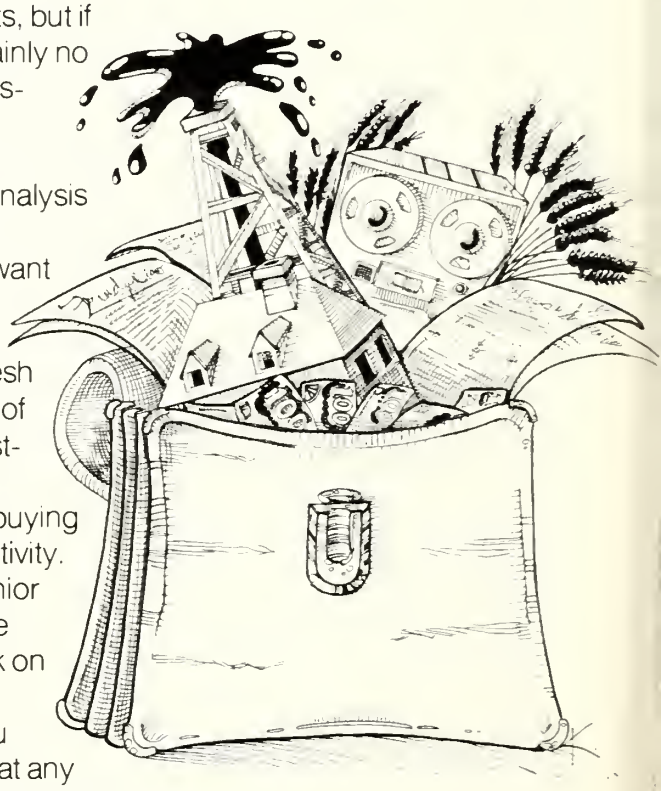

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Medicine In The Year 2000: A Symposium

By Stanley M. Aronson, MD, Paul Calabresi, MD, Pierre M. Galletti, MD, PhD, Henry T. Randall, MD, Leo Stern, MD, Albert F. Wessen, PhD, Robert J. Westlake, MD

Introduction

By Stanley M. Aronson, MD

In the spring of 1977 Brown University celebrated the inauguration of Howard Swearer as its sixteenth president. Members of the medical faculty convened to honor President Swearer and simultaneously to express our optimism in his future as well as ours by speculating about the years before us — specifically, by attempting to characterize the health care profession as we think it will exist some twenty odd years hence, in the year 2000.

The participants in this seminar, representing six different perceptions of medicine, recognized fully the inevitable risks of such a diagnostic attempt. It is essential, though, that we engage in these prospective studies so that the future will not arrive as some unwelcomed guest.

As physicians and medical scientists we must acknowledge the future as an essential part of our present thinking, preparation and projections. Clearly the future will be changed from the present; and we will not

Symposium held at Brown University, Providence, R.I., June 4, 1977.

STANLEY M. ARONSON, MD, *Professor of Medical Science and Dean of Medicine, Brown University, Providence, RI*
PAUL CALABRESI, MD, *Professor of Medicine, Brown University, Providence, RI*
PIERRE M. GALLETTI, MD, PhD, *Professor of Medical Science and Vice President (Biology and Medicine), Brown University, Providence, RI*
HENRY T. RANDALL, MD, *Professor of Medical Science, Brown University, Providence, RI*
LEO STERN MD, *Professor of Medical Science, Brown University, Providence, RI*
ALBERT F. WESSEN, PhD, *Professor of Medical Science and Sociology, Brown University, Providence, RI*
ROBERT J. WESTLAKE, *Associate Professor of Psychiatry and Human Behavior, Brown University, Providence, RI*

dispute that these changes will be great, nor even that the rate of change will be accelerated. But to the extent that we anticipate the hazards and ambience of the future, no matter how inaccurately, we will have fulfilled our prognostic responsibilities as members of the medical profession. It may be that the parameters of the future are beyond our dreams today; it may be, as someone has said, that even the future is not what it used to be. In any case, we here present our attempts at anticipating these great changes.

I. Medicine in the Year 2000

By Paul Calabresi, MD

I stand exactly half way between my development as a physician and the year 2000, having graduated from medical school in 1955. What we are doing now at Brown is training medical students who are going to be having their professional careers in the year 2000 and beyond. Reflecting on what has happened in the last twenty years, we can see that there have been some notable advances in the area of infections. Small pox is eradicated; polio is virtually eradicated; tuberculosis and other bacterial infections have been largely controlled.

What can we expect in the future? Parasitic diseases are very common in the world. Malaria and schistosomiasis are still number one and number two, and viral diseases such as hepatitis, influenza, and measles will probably be eradicated by the year 2000. However we can expect new infections. Because of increased ease of travel, we are seeing malaria and schistosomiasis in our own hospitals here in Providence. We are seeing epidemics of new diseases such as Legionnaire's disease, and new organisms which continue to crop up and force us to search for new antibiotics.

In the realm of impairment of blood supply and organ failure we have come a long way. We have sophisticated life support systems that can help us in cardiac disease and strokes. Artificial organs to help us in renal failure and transplants have made their way into our society. New ethical problems have developed along with them.

There will be many new diseases accompanying technical advances — complications and problems brought about by this technology. The aging population will reflect an increase in the organ failure problems of diabetes, heart disease, and brain syndromes. In the field of cancer, some diseases that previously were considered incurable (such as leukemia, Hodgkin's disease, lymphoma, and selected solid tumors) have not been cured by the combination of surgery, chemotherapy and radiation therapy. In the future we can continue to expect more specific cures, but our constant exposure to pollution and carcinogenic chemicals in our enviornment will increase the likelihood that new forms of cancer will be produced in the next twenty years.

Drugs have played a major role in our society and have been good from the standpoint of treatment of high blood pressure, many psychiatric disorders, gout, and others. We can expect more and better drugs in the next two decades. However, with this we shall also see an increase in toxicity, side-effects, and drug abuse. Occupational diseases and environmental diseases have been a result of the chemical environment that we live in. An excellent demonstration of this can be seen in the American Cancer Society statistics showing that in males cancer of the lung has taken a terrifying rise from the 1930s and is continuing to rise at present. This was approximately twenty years after the introduction of cigarette smoking and an increase in industrialization in our society. Concomitant with cancer of the lungs, cancer of the stomach has been declining for some unexplained reason, perhaps an alteration in our diet.

What we do understand, however, is the fact that these are different diseases and must be handled differently. They are different in the individual patient, and therefore it is important that we study the cancer as his or her particular problem. We have been working in our laboratories to try to culture a human cancer cell in test tubes. We have melanoma cells which have grown into colonies. Melanoma cells come from a black mole tumor. We can now identify them and study them selectively in a laboratory, in test tubes. We have leukemia cells that have grown in colonies in a Petri dish in the laboratory. We can test an anticancer drug for effectiveness with the leukemia cells of individual patients. This kind of individual

approach to an individual tumor in an individual human being is going to become commonplace by the year 2000.

Work has been done on specimens which have been inoculated with cancer cells. With the scanning electron microscope one can see the cancer cells spreading from one area and invading the normal crevices. This gives us a better idea of what cancer is like, how to cure it, and how to approach it. Under very high magnification (5000 fold) we can see a single cancer cell from a patient with cancer of the breast growing and actually dividing into two cells. We can study the surface properties of these cells. I believe that the surface of the cancer cell holds the secret for many things — metastases, spread of the cancer, and approaches to new drugs that will selectively enter the cancer cells and not the normal cells.

We are living in an era of polypharmacy. The pharmacological revolution has brought about many drugs and interactions of drugs. We have talked about the beneficial effects; we have talked about the harmful effects. Another harmful effect may be the fact that no human mind can keep all of this information readily available, such as drug dosages, interactions, and indications. Accordingly, I think we are going to have to turn to the computer for help. Many of us are frightened by the thought of the computer — doctors even more than the lay public. However, I like the quotation from a recent article from Doctor William Swartz in the *New England Journal of Medicine:* "One may hope that the computer, well equipped to store large volumes of information and ingeniously programmed to assist in decision-making, will help free the physician to concentrate on the tasks that are uniquely human, such as the application of bedside skills, the management of the emotional aspects of disease, and the exercise of good judgement in the non-quantifiable areas of clinical care." Medicine is the only profession which labors incessantly to destroy the reason for its own existence. I doubt very much that we will reach this goal by the year 2000, but this is no reason not to try.

II. Spare Parts Medicine

By Pierre M. Galletti, MD

For most of recorded history palliation of illness and suffering has been the primary task of medicine. One hundred years or so ago, with the discovery of the infectious nature of major diseases, medicine embraced the concept of radical cure based on scientific grounds rather than on the mystical notion of miracle. For a while it seemed that the magic bullets of antibiotic or hormonal therapy would eliminate all ills of mankind. We forgot the mortal nature of man, as expressed in the natural cycle of growth, maturity, and aging.

We are now beginning to accept the reality of degenerative disease, be it arteriosclerosis, emphysema, or cancer. Our social reaction, however, is a blend of realism and wishful thinking. We can justifiably identify environmental causes for the degenerative processes which lead to obesity, diabetes, cirrhosis, hypertension, or chronic bronchitis, but we often fool ourselves with abusive propaganda in the name of preventive medicine, as if preventing disease could eventually prevent death.

I view modern medicine as a survival strategy, and the medical doctrines of the moment as the expression of societal aspirations in response to current circumstances and current sets of values. In the western world we live in the illusion that life can be defined without reference to suffering and death. Thus, in identifying ills we keep looking for *external* guilty parties, whether they be carbon monoxide, nuclear reactors, oil spillage, or saccharin, rather than focusing our energies on the *internal,* imprecise notions of smoking, drinking, overeating, or driving too fast, which refer to individuals. We delude ourselves with the notion that the interests of the individual are necessarily congruent with the interests of the species. As a consequence we expect that a multitude of justifiable medical decisions regarding individuals will naturally lead to a justifiable national health policy.

Short of a major social upheaval, medicine in the year 2000 will be shaped by the convergence of a biological and a social argument: the recognition of the irreversible nature of degenerative biological processes, and the stress on individual survival at any cost, will lead us to a new set of expectations. Coming in to take the relay from palliative, curative, and preventive medicine is the

doctrine of substitutive medicine, or in common terms, spare parts medicine. The premise of substitutive medicine is that no one needs to die because a vital organ is irreparably damaged. The missing function can be replaced by a transplant, if there is an available donor, or by a prosthesis, if technology has progressed to the point that man-made devices can take on the burden of the decayed natural organ.

We seem to accept substitutive medicine quite imperceptibly. Blood transfusion was the wedge of this new movement. It is now so widely accepted that most people do not bother to recognize it as the most common form of tissue transplantation. Such other substitutive strategies are equally successful. Think for instance of large vessel prostheses, i.e. the woven dacron tubes which are employed by vascular surgeons to replace occluded, torn, or dilated segments of major arteries. Think of what prosthetic valves have done to improve the life expectancy of patients with aortic valvular disease. Think of the cardiac pacemaker, which in the last 15 years has radically modified the outcome of cardiac block, and gives elderly patients many years of full life, instead of the misery of fainting spells, broken limbs, and fear.

Other substitutive strategies are not equally successful, at least not yet. Think of the artificial kidney and chronic hemodialysis, which has elicited the only catastrophic disease program currently covered by Medicare. This medical activity has now escalated to a cost of 800 million dollars per year while providing a quality of life which is only acceptable in reference to the alternative of doing nothing. Renal transplantation admittedly offers a better quality life, yet it depends upon hemodialysis much as the artist on the flying trapeze depends upon a safety net.

Still other strategies are at the level of clinical experimentation, e.g. extracorporeal membrane oxygenation, which is feasible for up to 20 days, or the left ventricular assist device, a type of artificial heart, which has been technically successful for up to a week. There are laboratory curiosities, such as the artificial pancreas or the artificial eye, which offer entirely new perspectives in the treatment of diabetes or blindness. All of these share the optimistic notion that human ingenuity can figure out ways of replacing any living function, given the resources and some lead time, which in an evolutionary perspective is incredibly short, compared to the millions of years it took natural organs to reach their present state of development.

Spare parts medicine is with us, and growing. It presents us with a host of new problems — biological, social, ethical, economic. My forecast is that it will be a major factor in the medicine of the year 2000.

III. Surgery in the Year 2000

By Henry T. Randall, MD

Surgical technique is descended from the crafts of dressers of wounds and the skills of the setters of fractured bones. Surgery has been nurtured and stimulated by wars and natural catastrophies, and has made many of its major advances, from Ambrose Pare to MASH, under the stimulus of urgent necessity. The mobile army surgical hospital (satirized by MASH on television) proved during the Korean war, and more particularly in the Vietnamese war, that the rapid transportation of patients to facilities capable of caring for them resulted in greatly enhanced survival rates.

The surgeons of today blend the ancient surgical tradition with the more mystical and religious origins of "Physic" through university humanism and medical school science. As a result, surgery today uses applied physiology and biochemistry to a very substantial degree in the care of patients, and surgeons are making major contributions in these fields. In this light permit me to predict two directions of progress for the year 2000.

My first focus is advances in technique. Vascular surgery has made enormous strides in the past twenty-five years. Based on experiences in World War II and in the Korean war we have moved from repair of acutely injured arteries in arms and legs to successful replacement of major segments of the aorta, and from bypassing arteriosclerotic areas of narrowing in major arteries in the legs to the coronary arteries of the heart. Lives have been saved; and, more importantly, the quality of life has been improved for hundreds of thousands of persons each year.

Microsurgery is a logical extension of vascular surgery. New equipment and developing techniques in this field promise

huge progress in the future. For example, there is the operating microscope, a very different looking animal from what one used to use in high school biology or college pathology. This is an instrument with a magnification factor of anywhere from forty to sixty, and with two sets of eye pieces so that two surgeons can work opposite one another in an operating room, magnifying the field so that they can actually see what they are doing. Suture materials so fine that they are invisible to the naked eye permit repairing damaged tissues and blood vessels, including transplantation of whole segments of the body's skin and subcutaneous tissue. Microsurgery opens a wide field for reconstructive surgery, and will be used extensively by the year 2000.

There are other technical advances that are reasonably predictable. Prolonged tissue and organ preservation is now possible with frozen blood cells and sperm. There will be organ banks for kidneys, possibly lungs, and possibly even hearts. Perhaps cell banks will grow some tissue to specific needs, on order.

There will be the development of improved methods of meeting the specific energy requirements of critically ill patients unable to use their intestinal tracts to meet their needs for amino acids and for specific proteins. There will be early diagnosis and correction of congenital defects, possibly surgery **in utero**, where the mother provides both nutrition and oxygen far more effectively than can be done through artificial means.

The second arena of progress by the year 2000 must be a concern with access to surgery for those who need, and will benefit by, surgical treatment. Present and future surgical advances are meaningless without access. During the Korean and Vietnamese wars we learned how to bring patients very rapidly to areas where they could be competently treated, which resulted in a high percentage of survival and rehabilitation. We have not yet extended this to civilian life, but I predict that in twenty years we shall, so that by the year 2000 a civilian will have as good a chance of surviving an accident as does a soldier.

"Unecessary surgery", currently a deprecatory and much misunderstood term, will be redefined *by the consumer,* possibly on a cost/benefit ratio, into "essential surgery" and "necessary surgery". Priorities will be established defining by categories who can receive what services paid for by public funds, and probably how many expensive procedures of marginal benefit can be performed. All of us will share the burden of the extremely difficult process of priority and decision-making.

Surgical costs *per unit of service* will be reduced by the year 2000 in terms of our current dollar. Ambulatory and "in-and-out" same-day treatment will care for thirty per cent or more of all surgical patients.

The year 2000 should see the widespread availability of surgical patient-care teams, with surgical assistants, surgical nurses, and well-trained emergency care personnel. Improved transportation for medical purposes will provide virtually all the population with access to facilities appropriate for their needs. Much wider public knowledge of the need for and the capabilities and limitations of surgery will result in more efficient use of expensive, yet essential care.

It is clear that technical advances will far outstrip ability to pay the cost of providing some of these surgical services for all. There will be a clear economic limitations to what we can afford. Surgery will participate in, but cannot make all the decisions as to how surgical health care is to be rationed. This is the biggest challenge for the year 2000.

IV. Maternal and Child Health in the Year 2000

By Leo Stern, MD

Let me begin by indicating what population changes are projected for the year 2000. Figures from that outstanding medical journal, *The New York Times,* show a trend which everybody seems to agree upon, namely that the fertility rate is declining and that our birth rate per 1000 women (even by the year 2000, it will still be only the women who will be able to become pregnant) keeps on declining. We face not only a declining number of births, but we are also beginning to develop an ever-increasing older population. The median age of the population is on the rise. This is likely to continue, paralleling increased successes in coping with a variety of increasingly complex and difficult diseases. The percentage of people over the age of 65 is increasing as well. In

1900 only 4.1 per cent of the population was over 65 years of age. By the year 2000 it is projected that 11.7 per cent and by the year 2050, 16.1 per cent of the population will represent an ever-increasing older portion of the total population of this country.

There are currently two extremes in kinds of population, at least in the Western world, for which data is available. On the one hand, there is the population structure of Mexico, which has a lot of young infants and children, a very high mortality rate for young children and young adults, and a population very steeply pyramided toward the age of 75 and over. In other words, your proportionate chances of getting to be over 75 in Mexico are not nearly as good as they are in Sweden, where there is a fairly stable population base. One may argue that conceivably a cradle-to-grave social security system or homogeneity of population has assured a much better chance of reaching the older age group. Trying to project this country's future based on present statistics, we see a change toward a pyramided structure so that by the year 2000 the projection for the United States will show a much older population proportionately. Presumably, if one can outlive some of the diseases of this age period, one has an increasingly good chance of reaching an even older age.

What does this mean for us? Does it really mean that there are going to be fewer sick children to look at? I do not think so. I do not think so, because we have come to an era when much of the treatment of children with complex diseases has developed into an integrated and very elegant approach toward diseases that were not treatable in the past. The survival rate, for example, of children with leukemia, which now becomes an almost curable condition, will impose upon us (although we have fewer children) children with a great many more difficult and complex medical problems. The overall decline in the birth rate, therefore, is not likely to put people who care for children out of work. In fact, it would be my view that we need to develop far more elegant methods of delivery of complicated forms of care, not only for children, but for growing adults and for pregnant women as well.

I would like to focus not on what I think is going to happen, because I do not know what is going to happen, but on some of the problems to which we need to address ourselves given the changing times.

The primary problem is that the current American (i.e. North American) system of using physicians to deliver all forms of health care shall, in my view, have to go. It is inefficient, it is a waste of medical talent in some areas, and it does not deliver the kind of care that we are capable of providing. In the maternal and child health field there is very clear evidence that a variety of non-medical and paramedical personnel can very nicely operate antenatal maternity clinics. This has been done in England for years. Paramedical personnel have been operating newborn intensive care units very effectively in France for some time. We are coming to an age when physicians will be obliged to do many more intellectual tasks, but perhaps some things that they currently do can be done by others. We need to provide for the training of such personnel.

We are coming to recognize that our past concepts of medical care crisis management are invalid. One gets a much greater return for one's dollar (or pound or lire) if one attempts to prevent the disease from occurring in the first place. As a society, the United States and its North American friends are very good at coping with the crisis situation. As a society they are also rather bad at preventing the situation from occurring in the first place. There are two very good examples in the care of newborn infants that should rivet our attention. The first of these is the Rh story, which in the past 25 years has progressed from a killer of jaundiced babies, to the identification of the disease, to the development of Rh immune globulin immunization which is, in effect, capable of eradicating the disease universally if it is properly applied. It is a good example of the fact that science is necessary for medical progress. Those who talk about clinical medicine without science know not whereof they speak.

The coming decade for newborn infants heralds, I think, the prevention of hyaline membrane disease, a disease which became famous when the late President John F. Kennedy's child died of it, and which still takes a toll of about 25,000 infants a year in this country. The ability to enhance pulmo-

nary maturation by biochemical means may well avoid the onslaught of the disease altogether. Not only will it be better in the long run, but it will be cheaper than treating thousands of these children after birth for the possible complications of pulmonary insufficiency.

Finally, we have to begin to look a little more carefully at our own history. In the early seventeenth century William Harvey described the circulation of the blood *(De Circulatione Sanguinis).* In discussing the difference between the embryonic or fetal circulation and the adult circulation, Harvey made the point that in the human fetus the circulation is arranged in parallel so that the output of one ventricle functions independently of that of the other ventricle. This is a nice arrangement when you are an embryo. It is also, as he pointed out, an inefficient and poor arrangement once you are born. Therefore, after birth the two ventricles work in series so that each knows what the other does. And the output of one is directed entirely to the output of the other. We have not yet learned this lesson in our approach to the health of children in this world. As an example, there is currently an extensive propaganda campaign for some of us to go to India to establish intensive care units for newborn infants to help treat serious neonatal disease. In parts of that country there is a forty per cent mortality of children under the age of one year from malnutrition. The problem is: Can a society address itself to the former without solvling the latter? There is no use in expending our energies to do A, when B, C, and D will invalidate what A accomplishes. In that respect we are still operating in an embryonic stage of how health care for children, or indeed for anybody, is delivered. Not only must our priorities be realistic; they must also be capable of providing solutions which will approach an entire problem rather than just attacking it piecemeal, each from his or her own bias. We owe it both to the world's children and to ourselves.

V. The Health Care System in the Year 2000

By Albert F. Wessen, PhD

We have become used in recent years to hearing that our health service is in a state of crisis, a crisis evinced by a gnawing feeling that there is a terrible gap between all of the potentialities · that we have heard about already and our ability to deliver them to people. It is likely that this feeling of unmet ability to deliver on potentiality will continue to be with us if not to increase in the future. We have had a feeling of crisis because people have said that the health care system has not been accountable to the consumer — the people — that it has not delivered what it promised, nor has it been willing to listen to what people wanted and to adjust easily enough.

We have been shown by our epidemiologist colleagues that most of the decline in mortality which has meant so marked a demographic shift in the last 50 years cannot be counted as medical progress, but rather as a sign of the increased and improved standards of living of people around the world. We are told that, despite the billions that we are putting into medical research, we in our country are falling farther and farther behind relative to other countries in terms of life expectancy, in terms of declining infant mortality, and the like. Most of all we are told that we are in a crisis because medical care just costs too much. When I was in graduate school, it was taken as a law that the health care services in most developed countries accounted for about 4 per cent of the gross national product. In the United States it is no longer 4 per cent it is 8 per cent and going up. In a society which is no longer one of abundance but of increasing scarcity, we are worried that we can no longer afford to pump money into an establishment that does not meet our expectations, and so crisis is the keynote.

By the year 2000 I believe that the crisis may still be with us, but that it will be well on its way to resolution. The outlines of a changed approach may be much clearer than they are now. Our health care system has been based, as has our medical education system, upon the notion of the hospital as the center of the system, the hospital as the community center which will dispense the miracles of medical technology to those who need it and which will be the nerve center of medical care. I believe we shall increasingly change our focus and see the hospital no longer as the center, but as the referral place to which the minority who need special

procedures should go. Attention will be on the delivery of care through polyclinics in health maintenance organizations, in whatever institutional form we evolve. This will mean a major adaptation for medical education, an adaptation which we have only begun to think about.

Secondly, we shall see a system in which many of the tasks which we think of today as being solely the prerogative of the physician are carried out not only by others in the health professions, but also by lay people themselves. By the year 2000 we shall be depending, as we have not now even begun to depend, upon people to be responsible for themselves and to do in selfcare things that today require the intervention of expensive professionals. Not only shall we as a population have to be much better educated about the science of medicine and about the practical things that we can do to remain healthy; we shall also have to motivate our population, as it has never before been motivated, to apply concepts of selfcare early before the damage is done, and before the special and expensive method of substituting spare parts becomes the only way out.

This will mean a change in orientation from a medical care system to a health care system. If there is any self-delusion among health professionals today, it is precisely that they do not realize that they, as professionals, come in to try to put out the fire, or to repair the damage, or to take care of those for whom health (in the fullest sense of the word, at least) is no longer possible. We shall, I believe, as professionals, as citizens, and as societies orient ourselves by the year 2000 toward a health-directed set of activities in which prevention becomes the watchword. We have made major inroads in many of the diseases of the past through prevention. There may be a few more diseases susceptible to this approach. But I believe my professor was right twenty odd years ago when he said, "The trouble is, you know, that psychiatrists have never been able to find a 'schizococcus'. If they could, we could have a vaccination." I suspect that the "schizococcus" will remain an elusive microorganism, but I believe that prevention will increasingly direct our attention to our total environment and to the interaction between ourselves and the pollutants around us, to the social systems within which we work, to providing systems of social support for those who need them, to planning ahead, and to doing those things which will allow health to remain.

Preventive medicine's biggest problem is that most of the things that work in a preventive way are unpleasant. If our scientists could find something pleasant that prevents something, something that would allow us to eat what we want rather than something we like, we would be farther along. I doubt that this will be possible; so we are thrown back to the problem of social support, motivation, and education.

The basic intellectual model in which medicine has been developed may be at a point where it is likely to undergo a change. We have focused almost exclusively on a purely biomedical model which has paid attention, at increasingly fundamental levels, to that which went on in the internal environment. We have assumed that, if we understood that well enough, we should be able to cure disease. We recognize increasingly some things which we really always have known, that disease is the product of interaction between an internal and an external environment, and that the external environment involves the behavioral, the social, and the psychological environments of people. Both in understanding disease and in dealing with prevention we must develop a model which does not discard increasing scientific knowledge at the biomedical level, but rather integrates it with knowledge, now only in its infancy, about the way in which people behave and how this affects their environment. Acceptance of a changed medical model is a possibility by the year 2000. With this change it may well be that the problems of social structure will be managed more easily than they have been in the past.

VI. Psychiatry in the Year 2000

By Robert J. Westlake, MD

The year 2000 is only some twenty odd years away. In order to get some idea of that time span, I went back to examine a copy of the *American Journal of Psychiatry* from the year 1954. In this journal I noted reports of nineteen different fields of research. On closer examination, however, I noted that one of the longest discussions in the 1954 journal was devoted to a disease which has

all but disappeared today (neurosyphilis). The psychological theories and techniques described seemed somewhat stilted, reflecting a cultural and social philosophy which no longer exists. Most of the research described has made very little impact upon the plight of the mentally ill today.

The one paper of astounding importance was the three paragraph announcement of the introduction in France of a new experimental drug, chlorpromazine, which has become the parent compound for a vast series of drugs effective in the treatment of schizophrenia. These drugs more than anything else have contributed to the massive decrease in the numbers of residents in mental hospitals during the last twenty years. During this period, while our population has increased, the number of persons hospitalized in psychiatric facilities has dropped from 500,000 to less than 300,000.

From my observations of this journal of more than twenty years ago, I draw several conclusions about psychiatry more than twenty years in the future:

1. The diseases we treat will be different. Those most common and difficult today may be absent or their treatment easy by the year 2000.

2. Psychological interventions to be useful will have to mold themselves to a rapidly changing culture and be based on reproducible experimental data. Current work with behavioral treatment suggests that very powerful results may be obtained by focused application of specific psychological theory.

3. Biological investigation and discovery will yield further insights demonstrating structural and chemical bases for disturbed behavior.

This is clearly the beginning of the era of biologic psychiatry. The new drug treatments have opened the door to an understanding of specific neural pathways and metabolic mechanisms in the brain which can be activated or depressed to alter mood or create hallucinations. This knowledge may eventually explain such mysteries as emotion, thought, and memory. As biologic understanding increases, we may have in our hands extremely powerful tools to alter mental functioning. This in turn may present problems in social control of the use of these tools.

I was not satisfied by the 1954 journal alone; so I went to the Science Library at Brown University, and scanned the *American Journal of Psychiatry* for January 2000. From it I can report directly about future developments and will list some of the more interesting titles: 1. "Human Hibernation Treatment of Psychosis associated with Interplanetary Travels: Report of a Series." 2. "Use of the Brain Pacemaker as an Electrical Mood Generator in Manic Depressive Illness." 3. "Pharmacologic Treatment of Mental Retardation: Review of all Drugs which increase IQ by More than 20 Points." 4. "Interactive Videophone Group Therapy in the Treatment of the Social Crowding Syndrome." 5. "The Role of the Technician in Resolving Patients Negative Feelings Towards the Computer-Therapist." 6. "Court-Ordered Behavioral Change Programs for Persons with Social Maladjustment Syndromes." Now from these titles one can draw many observations about what psychiatry will be like in the 21st century. I shall comment on only two of these subjects, the basis of which can be seen in current psychiatry.

First, with regard to the computer, computer technology has begun to make an immense impact in all aspects of medicine. Already in experimental programs computers have been used to take medical and psychiatric histories directly from patients, perform diagnosis, and even to do psychotherapy (at the remarkably competitive price of $3.00 per hour). Currently in the Salt Lake City VA Hospital computerized diagnostic procedures are used to shorten the usual five-day patient assessment into five hours. The majority of the testing is done by direct interaction of patient and computer terminal with only minimal assistance from a technician. The cost is only a fraction of conventional assessment, and the more accurate outpatient diagnostic approach has resulted in a reduction in admissions and great savings to the hospital. The program is well accepted by most patients. A similar computer-patient testing procedure will begin this month at Butler Hospital in Providence, Rhode Island as part of a research project on the validity of psychiatric diagnosis.

Computers may be used to store individual medical histories in a national memory bank,

to recall them instantly and exactly whenever needed, and to review them in the light of new symptoms and new medical treatments. A first step in this direction is already underway in four states including Rhode Island. Demographic and some historical data concerning all psychiatric admissions are collected and, after double-coding to protect confidentiality, are stored in a central computer in Rockland, New York.

A further application of computers is the storage of much of the *technical information* which we now try to store in the heads of medical students. This application in the next century will allow us to select candidates for medical school with aptitudes which differ from those of the present students, and to develop a new type of clinician with more skill and interest in interpersonal relationships. Behavioral science will play a larger role in the education of all medical personnel, and doctors will again be able to be truly interested in their patients as persons. This development will be welcomed by the public, who will sense a return of the "family doctor", absent since the rapid expansion of scientific medicine began in the 20th century.

With regard to the paper on videophone, communications technology will also have considerable impact on psychiatry by the year 2000. Closed circuit television is now in use to provide psychiatric consultation between the Mental Health Center at Dartmouth and rural hospitals, and between Mount Sinai Hospital of New York and inner city mental health centers.

The wide development of the videotelephone may make the electronic house call commonplace and greatly facilitate individual psychotherapy, group therapy, and family therapy all of which could be performed without any of the participants leaving home or office. Videophone sessions may all but replace psychiatric outpatient clinics and help to reduce hospitalization by more available early intervention.

I conclude after examining these two journals that psychiatry by the year 2000 will have moved to resume its ancient position as a central medical discipline and become a critical part of the functioning of every clinician. The changing medical and social context will present entirely new psychiatric problems, and the medical personnel of the future, in part because of their reliance on computers, will have both time and the aptitude to learn from psychiatry again the central medical skills of interpersonal relationship and empathy.

Division of Biology and Medicine
Brown University
Providence, RI 02912

ERRATUM

An entry for Marshall N. Fulton, MD was omitted from the "Rhode Island Medical Necrology—1977" (*RIMedJ* 61 (2):54-6, Feb 78). We apologize for this omission, and call attention here to two special papers in this month's issue: "Marshall Nairne Fulton, MD, 1899-1977" by Milton W. Hamolsky, MD; and "Sir William Osler's Better Half" by Marshall N. Fulton, MD.

Ed.

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Marshall Nairne Fulton, MD, 1899-1977

Marshall Nairne Fulton, MD, 1899-1977

By Milton W. Hamolsky, MD

Doctor Marshall Nairne Fulton was born on March 10, 1899 in Keokuk, Iowa and was educated in the Keokuk Public School System. He attended Brown University from 1916 to 1920, with a brief hiatus from July to December 1918 for service in the Army Training Corps. He was appointed a Rhodes Scholar and attended Oxford University from 1920 to 1923, where he graduated with honors in physiology. He returned to attend Johns Hopkins University Medical School, from which he received his MD Degree in 1925. He then served as a medical house officer, assistant resident, and resident physician at the Peter Bent Brigham Hospital in Boston, Massachusetts from 1926 to 1931. He returned to Providence where he entered the private practice of Medicine, but was called back to Boston in 1932 to serve as Director of the Department of Medicine Laboratory at Harvard Medical School, where he advanced to Associate in Medicine and Senior Associate at the Peter Bent Brigham Hospital. From 1942 to 1946 he served as a Major, Lieutenant Colonel, and Colonel in the Medical Corps of the Army, serving as the Chief of the Cardiovascular Section and Assistant Chief of the Medical Service at Walter Reed General Hospital, Chief of the Medical Service at the Valley Forge General Hospital, and Chief of the Medical Service at the White Sulfur Springs, West Virginia army hospital. It was there that he met or treated Generals Dwight D. Eisenhower, Omar Bradley, Brehon B. Somerville, Joseph W. Stillwell, and Jonathan M. Wainwright. He was awarded the Legion of Merit of the United States Army in 1946. He returned to the private practice of Internal Medicine in Providence, Rhode Island from 1946 to 1966. He served as Physician-in-Chief of the Department of Medicine at the Rhode Island Hospital from 1948 to 1963, president of the Rhode Island Hospital Staff Association, and Consulting Physician to the Roger Williams General Hospital, Westerly Hospital, the United States Veterans Administration Hospital, Women and Infants Hospital, Pawtucket Memorial Hospital, and The Miriam Hospital. In 1963 he became the first Brown University Professor of Medicine at Rhode Island Hospital in Brown's new Program in Medicine and was elevated in 1964 to Professor Emeritus which position he held until his death in May of 1977.

He was a member of the American Medical Association, the Providence Medical Association, and the Rhode Island Medical Society, and served for many years as chairman of its Postgraduate Education Committee and of its Committee on Scientific Assembly. A Fellow of the American College of Physicians,* he served as Governor for Rhode Island in 1953-62, Chairman of the Board of Governors from 1959 to 1962, vice-president from 1962 to 1963, and regent from 1963 to 1969, and attained its

Memorial minute read at Faculty Meeting, Brown University, November 1, 1977.

MILTON W. HAMOLSKY, MD, *Professor of Medical Science, Brown University, Providence, RI; Physician-in-Chief, Department of Medicine, Rhode Island Hospital, Providence, RI*

*Doctor Fulton was cited in the *Annals of Internal Medicine* for his "eminence in affairs of the American College of Physicians." As Chairman of the College's Committee on Publications, 1962-1968, "he was proud of the College, its goals, its programs, its membership, but particularly of this journal. . . His education gave him an unusually strong affection for the culture and traditions of the English-speaking world. This affection led him to expect that *Annals of Internal Medicine* would further the College's work according to the standards developed through centuries of Anglo-American medicine." *(Ann Intern Med* 87(5):630, Nov 77). Ed.

highest award, Master of the College. He was awarded its Stengel Medal for outstanding service to the College in 1971. He was a member of two of the most prestigious of academic medical societies — the American Society for Clinical Investigation and the Association of American Physicians. He also served as president of the American Clinical and Climatological Association. Pursuing his special interest as a cardiologist, he served the Rhode Island Heart Association as President from 1953 to 1955, the New England Heart Association as Vice-President from 1948 to 1949, and the New England Cardiovascular Society as Vice-President from 1952 to 1953, and was a member of the American Heart Association.

He achieved comparable distinctions throughout his career at Brown University. He was class valedictorian in 1920, served as an alumni trustee from 1944 to 1947 and as President of the Brown University Trustees Emeriti 1967, received an honorary degree (Sc.D.) in 1960 and served as Chief Marshall for the University Commencement in 1970, Chairman of the 50th Anniversary Gift Committee of the Capital Fund Drive of Brown's Program for the 70's and one of the two physicians on the Medical Resource Committee during the development of the Program in Medicine. He was awarded the W. W. Keen Distinguished Service Award by the Brown Medical Association in June 1976.

He served as a commissioner on the National Joint Commission of Accreditation of Hospitals, representing the American College of Physicians.

Among his numerous community services, he was a Trustee of Butler Hospital, the Mary C. Wheeler School, St. Elizabeth Home for Aged Women and Roger Williams College. He and his wife, Mary Howe DeWolf, arranged for the acquisition of 63 acres of the Ferry Cliff Farm to serve as the Bristol campus of Roger Williams College. He was a member of the Vestry of St. Martin's Church in Bristol. He served as the Rhode Island member of the New England District Rhodes Scholar Selection Committee and was a Chief Medical Examiner for the Rhode Island Board of the National Board of Medical Examiners.

The mere recital of so impressive and distinguished a career says little of the man. To those who knew him best he was the epitome of the renaissance man combining, in the words of Professor Brice Lyon, "Intelligence, inquisitive spirit, happy versatility, appreciation of beauty, acute sensitivity, understanding of man's unique spirit and creativity, and joie de vivre. Truly a Christian humanist."

One of the dominant themes of his life was music. He began to play the piano at age seven, played in the Keokuk High School orchestra, and when expert turned to master the piccolo. During his four years at Brown he played the tuba in the band and, since there was no available music for the tuba, he transcribed his own music from the piccolo score. During his tenure at Oxford he rented a piano and mastered virtually the entire works of Gilbert and Sullivan, which he could play and sing and direct from memory to the delight and enjoyment of his many friends. And many a small gathering at his home or among local society was charmed by his good humor, grace, and wit, by his personal interpretation, in words and music, of his favorite composer, Brahms, and regaled by the beauties of Mozart and of Vienna. He brought the same exuberant enthusiasm, based on wide-ranging inquisitiveness and personal experiences, selective research, and a gregarious but critical receptivity, to books, good food and wine, literature, history, art, flags of every description, and the Boston Red Sox.

Doctor Fulton served as Chief of the Department of Medicine of the Rhode Island Hospital longer than any of his predecessors. He was responsible to a major degree for the development of the medical staff, internship, and residency programs and teaching programs which prepared it to serve as a major teaching affiliate of Brown University. He first developed the concept of a separate hospital Director of Medical Education because of his firm belief in the primary role of a hospital in that endeavor. He served as Chief when the Rhode Island Hospital Board of Trustees added research to their explicit goals of patient care and teaching. Although he was strong in his support of the primary role of the practicing physician in rendering patient care and in teaching clinical medicine to younger physicians, he fully supported the development of the full-time Chief who could

be completely committed to the university program in Medical Education. As his successor, I continue to learn of his high principles, personal compassion, and concern for people, countless episodes of his help at a critical phase of a young physician's career, his bountiful hospitality, his truly unique balance of a strong commitment to tradition in medicine with an openness to change, and a total and living dedication to the principles of Richard C. Cabot and Hermann L. Blumgart,"The secret of the care of the patient is in caring for the patient." A skilled and experienced and caring humane clinician, he taught his patients and his students and became, for Rhode Island and Brown, "a link in the endless chain of teacher and student, student and teacher down through the years."

One of the major forces in shaping the young Fulton was the opportunity to live while a student at Brown with his uncle, Dr. Frank T. Fulton, an outstanding Physician of this community. Frank Fulton had been a graduate of the third class of Johns Hopkins Medical School — the pioneer in the development of medical education within the fabric of a university, committed to the same principles of academic excellence. Nurtured by the early great giants of American medicine, he filled the young Fulton with the lore of Sir William Osler, who became Marshall's exemplar of medicine, the subject of his valedictory address at Brown in 1920. It was this continuing exposure which led Marshall to a medical career. Unfortunately, he arrived at Oxford one year after the passing of Sir William Osler, but was privileged to become a latchkeyer at 13 Norham Gardens, the "open arms" home of the Oslers, and to have ready and free access to the Osler library, lawn tennis courts, and the daily teas for two or two dozen or more.

Doctor Fulton reveled in his experiences with the great men who had spent time under Osler — such as Wilder Penfield, Archie Malloch, William Francis, John Fulton, Professor Charles Sherrington, and Harvey Cushing. In his later years, Doctor Fulton was a member of the American Osler Society, and it is fitting that his last professional act was the delivery of a paper at the Mayo Clinic in Rochester, Minnesota, on May 11, 1977, titled, "On Being a Latchkeyer at 13 Norham Gardens, Oxford, 1920 to 1923" — his deeply personal tribute to Lady Osler, given five days before his sudden and unexpected death while visiting three of his eight children in Colorado.

Doctor Marshall N. Fulton, a man of Providence and of Brown, a beloved physician, a true Christian, a scholar, a teacher by example, a renaissance man, a gentle and loving and thoughtful husband and father, committed to the basic tenets of the medical profession — "to cure when possible, if not, to alleviate pain or suffering — and, in any event, to attempt to ease the discomfort of body and mind."

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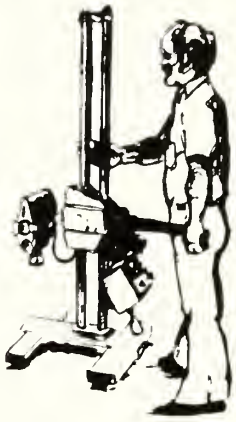

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Sir William Osler's Better Half

By Marshall N. Fulton, MD

When I entered Oxford as a medical student in the fall of 1920, the University was getting back towards normal after World War I, and many veterans were still in residence. Sir William had died the preceding December. Lady Grace Osler, though deeply saddened by the double loss of both Sir William and their son, Revere, had made it clear that her home was still to known as "The Open Arms." The great task that now loomed was the cataloguing of Osler's books. Wilder Penfield was in residence for his last term. Archie Malloch, then on a fellowship at Bart's Hospital in London, came regularly to Norham Gardens each weekend, adding cheer, good humor and spice to any gathering there. Soon to arrive from Geneva was Billy Francis, who would undertake the major task of cataloguing the books; and but a short time later, his daughter, Marian, was born, to add happy excitement to the Osler household. John Fulton's advent at Magdalen was but a few months off. Professor Charles Sherrington was active as the head of physiology. There was plenty of color aboard, even if Oxford had not won the boat race for several years.

I arrived on this Oxford scene with a fair knowledge of Osler, thanks to having lived, while a student at Brown University, with my uncle, Dr. Frank T. Fulton, who had graduated in the third class to finish at Johns Hopkins Medical School in 1899. I had heard of Osler many, many times. To me, my uncle was a veritable James Bovell. So deep had my own interest become that when I was privileged to give an address at my Brown Commencement, I spoke on Sir William Osler. These facts gradually became known to Lady Osler after several delightful, albeit a trifle frightening meetings at 13 Norham Gardens. And then one day, after I had asked her one or two apparently intelligent questions, she said in her characteristic, very direct way, "You seem to know quite a lot about us!" That afternoon I carried home, as a gift from her, paperback copies of both *A Way of Life* and *Science and Immortality* — trifling little volumes perhaps, but they meant a great deal to a hero-worshipping young medical student.

The library of the Osler home

Doctor Fulton's original title of this paper was "On Being a Latchkeyer at 13 Norham Gardens, Oxford, 1920-1923." He gave the paper on May 11, 1977 at the Seventh Annual Meeting of the American Osler Society at the Mayo Clinic, Rochester, Minnesota. He died suddenly five days later.

Reprinted from the November/December 1977 issue of the *Harvard Medical Alumni Bulletin* with the kind permission of the publisher and the family of the late Doctor Fulton.

An even greater thrill came two months later when I found, on returning from a Christmas vacation, a sizable book, enclosed with a note:

Dear Mr. Fulton:

I should like you to become used to reading "Osler" while you are in Oxford – I send you the next Edition (English) so that it may become part of your life here and be associated with what I hope proves more interesting every term. A Happy New Year to you.

It was the *Principles and Practice of Medicine.* Here indeed was proof that the "way of life" of thoughtfulness and caring, and giving pleasure to others which had so dominated the day-to-day living of these two wonderful people still went on with Lady Osler. Membership in the Latchkeyer Club soon came about and without any fanfare. There were three or four of us at the time I was there. It meant a front door key with the unlimited privilege of coming whenever one wished, to browse and study among the books, sit by an English hearthside, or play tennis on the garden lawn. Among the other latchkeyers was John Fulton—not a relative of mine, but a warm personal friend. It was really wonderful to watch the growth of bibliophilia, even approaching bibliomania, in this remarkably able and brilliant young man. In very short time, he was way ahead of all of us and Dr. Francis was putting him to work on esoteric problems, sleuthing among the books. Another was a delightful Britisher, Arnold Muirhead, who, though not a medic, was an avid bibliophile. After leaving Oxford, Arnold kept in close touch with all that went on at the Open Arms, and in 1931, several years after Lady Osler's death, he published a charming memoir of her which was privately printed at the Oxford Press. And Harvey Cushing was there, working on his biography of Osler.

Of course, the greatest privilege of all was the opportunity to come to know Lady Osler. The attribute that comes first to mind was her great concern for others. This encompassed every degree of a full circle—from the lonely undergraduate or beginning medical student, to the young wife about to have her first baby, to the elderly inmates at Ewelme — all of whom she knew by name and often

Lady Osler

13 Norham Gardens

visited—right on up to the thousands who, during the war, needed the supplies prepared by the Oxford Needlework Guild, which she ran with the help of some fifty to a hundred other volunteers. She cared deeply for all of her friends and their people. This concern was a natural expression of her unusual warmth of personality, for in addition to her graciousness, she had a sensitive and motherly touch. More than once, I heard her admonish American Students on how best to get

The Osler drawing room

Lady Osler as a young child

on with their confreres in England and then ask them, "Do you boys all know that you *must* not try to live through an Oxford winter with American boxer shorts. Go get yourselves some long johns, now, and don't try to be proud or arrogant."

During World War I, a number of professors from Louvain, Belgium, and their families took refuge in Oxford after the sack of their city. It was Lady Osler who found houses and clothing for many of them and who could write to her friends, "At present we have fifteen professors with their families — about eighty persons under our care." She summed up her efforts less seriously by telling her friends that whereas a few months previously, she scarcely realized that professors existed in Louvain, she now knew exactly what size in underwear each professor needed.

On one occasion in Paris, she and her sister were being followed by an annoying admirer. When stops at windows, or even in stores, failed to shake him, Lady Osler, in mock exasperation, spun around on him, flashed open her umbrella nearly in his face, and said "Shoo!" The sad sack vanished.

Imagine an American housewife, newly arrived in England, picking out a bathtub for a remodeled bathroom. What better way to size it up than to get in it, which is exactly what she did, fully clothed, to the great consternation, as well as the amusement, of her British plumber. As Osler, himself, so aptly put it, "It's very hard to live up to these Boston women."

Any student of Osler is well aware of Lady Osler's great devotion to Sir William. Who possibly could have provided more compptetely the kind of home he wanted and loved? He, himself, acknowledged, "Of the greatest of all happiness, I cannot speak—of

Who's Who: *James Bovel,* as medical director of Trinity College School in Ontario, steered the young Osler toward medicine. *William W. Francis,* Osler's nephew, spent nine years preparing material for and overseeing publications of *Bibliotheca Osleriania,* the catalog of Osler's library. *John F. Fulton,* a Rhodes Scholar, became a distinguished neurophysiologist and historian of medicine. *Reginald Hill,* of the Bodleian Library, helped edit the Osler Catalogue and compiled the index for Harvey Cushing's biography of Osler. *Archibald Malloch* was librarian of the New York Academy of Medicine. *Arnold Muirhead,* a rare book dealer in St. Alban's, England, wrote Lady Osler's biography. *Sir William Osler,* a clinician of great stature, was the most influential medical educator of his day, and an early proponent of bedside teaching. *Wilder Penfield,* like Marshall Fulton, was a Rhodes Scholar, a graduate of Oxford and of Johns Hopkins Medical School, and house officer at the Peter Bent Brigham Hospital. He was a distinguished neurosurgeon and professor of neurology and neurosurgery at McGill University from 1933 to 1960. *Sir Charles S. Sherrington,* a British neurophysiologist and professor at Oxford, was noted for his analysis of the integrative action of the nervous system. In 1932 he received the Nobel Prize for his work on the function of the neuron.

—G. E. Gifford

my home. Many of you know it, and that is enough."

In my brief era, Lady Osler was at her best during the quiet moments spent reminiscing about him. Her major concern was his books. Much as she dreaded the thought of the books leaving Norham Gardens, she knew how McGill would love to have them, and she pressed for the completion of the catalogue. This task, so carefully and skillfully handled by Dr. Francis, Archie Malloch and Reginald Hill, took seven years to finish. The first boxes for moving the books to Canada arrived the day before Lady Osler died in August, 1928.

Her obituary notice was written by Professor Arthur Thomson of Oxford, whose description read, in part: "Her dignified presence, her charm of address, her sincerity of purpose, coupled with a tenderness essentially feminine, has ensured . . . a memory ever fresh and desirable."

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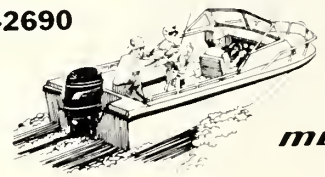

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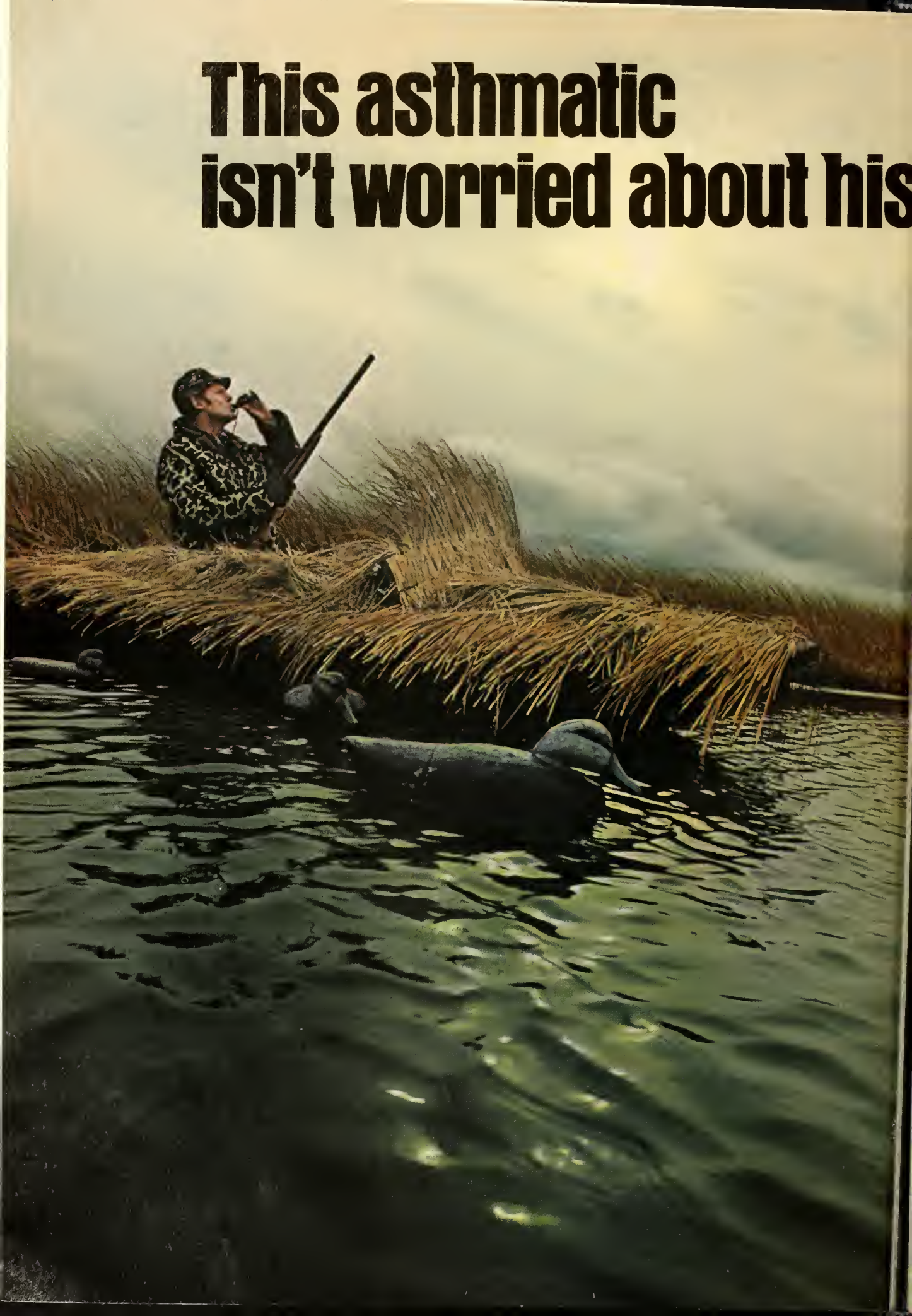

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Reference 1. Data on file. Mead Johnson Pharmaceutical Division.

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Theophylline dosage may be cautiously increased to 2000 mg/24 hour in adults and 9 or 10 mg/kg every 6 hours in children. Monitoring of serum theophylline levels at higher dosages is recommended.
Precautions: Do not administer more frequently than every 6 hours, or within 12 hours after rectal dose of any preparation containing theophylline or aminophylline. Do not give other xanthine derivatives concurrently. Use in case of pregnancy only when clearly needed.
Adverse Reactions: Theophylline may exert some stimulating effect on the central nervous system. Its administration may cause local irritation of the gastric mucosa, with possible gastric discomfort, nausea, and vomiting. The frequency of adverse reactions is related to the serum theophylline level and is not usually a problem at serum theophylline levels below 20 μg/ml.
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Class Of 1978
Brown Program In Medicine

The lively variety which characterizes the class of 1978 is belied by the statistical picture, which looks quite homogeneous. True, 95 per cent of the class is in the 24-28 year old age range; 86 per cent are from the Northeast (New England or the Mid-Atlantic states); 86 per cent received Brown undergraduate degrees and 75 per cent of the class were part of the Brown seven year continuum program. Yet this tells us little about the diversity of experiences these students have taken advantage of, or have created for themselves, in their student years at Brown.

Unconventional elective expeiences have been taken in such remote locations as Afghanistan; the Hopi Reservation in Keams Canyon, Arizona; London; Mississippi; Leslie County, Kentucky; and the islands of Vinalhaven, Maine and St. Lucia in the West Indies. An equally impressive variety of electives has been completed in numerous medical centers throughout the United States, and particularly in the greater Rhode Island area, both at the Brown Affiliated Hospitals and at nearby community hospitals and health centers.

The students of the Class of 1978, in collaboration with the Rhode Island Heart Association have staffed a hypertension screening project throughout the state. They have administered flu shots in the area health centers, and have volunteered throughout the community to aid with health care during the Blizzard of '78. During a strike at the State Medical Center they came by the carload and stayed over until the emergency situation was resolved.

They have lived in dorms, on their own, in cooperative houses, and as nuclear families. (30 per cent of them have married.) They have brought music to each other and to the community. They have participated in sports, dividing into the mutually uncomprehending camps of squash players and softball players. They have gained a reputation as superb party-givers and inveterate pranksters (being creators of the now annual Halloween masquerade in Anatomy class). The classroom has not been the boundary of their association with one another, and, as one graduate summed it up, they have "always laughed a lot".

This sense of good-spiritedness goes deep. It characterizes both the Class of 1978 and its feeling about the uniqueness of the Brown Program in Medicine. Class members tend to feel that both the relatively small size of each class at Brown and the seven year continuum program have created an unusual atmosphere of cooperation and mutual support, rather than competitiveness. The opinion also has been expressed that, as an integral part of Brown, the influence of the campus atmosphere "makes medical student life a lot more bearable". Even the trial of their second pre-clinical year, spent almost entirely in a windowless lecture room with padded walls, was partially alleviated by "beautification projects", such as installing a painted window and outdoor scene, and the construction of a BREAK sign which could be lowered to alert the lecturer that class concentration powers were temporarily not functioning.

Of course there were always complaints, but the general feeling is that there were always opportunities offered to air their grievances, and that their class complaints in terms of course changes have been listened to.

There is a general enthusiasm for having a chance to work within the various hospitals affiliated with Brown. The chance to see "normal sickness" in a community hospital, as well as more complex and unusual referral cases in other settings, is felt to be a great asset, as was the chance to see how things are done ndividually in different hospitals.

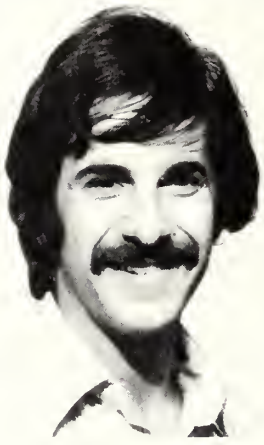
Many students have expressed an especially deep sense of gratitude for their contact with the Rhode Island clinicians who are part of the the Program in Medicine faculty—for having the chance to work with physicians who are both aware of current medical advances and are simultaneously first-rate primary care clinicians.

We present to you here the members of the class of 1978, whose good spirits, diversity and enthusiasm have been greatly appreciated and will be greatly missed.

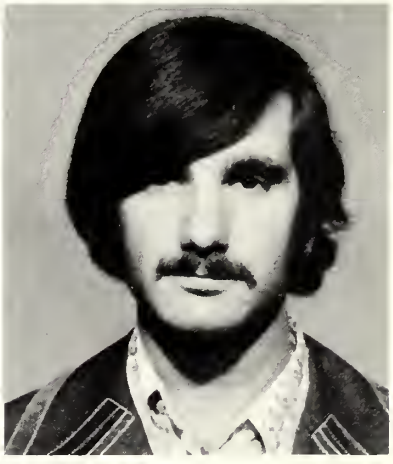
By Margot D. Honig

SHARON AKREP, Tufts, Surgery, New England Medical Center Hospital

MORRIS BIRNBAUM, Washington University, Medicine, Barnes Hospital Group



JEFFREY AUSTERLITZ, Brown, Medicine, Roger Williams General Hospital



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ALAN BROWN, Albert Einstein College of Medicine, Surgery, Montefiore Hospital Center

RICHARD BROWNING, Brown, Pediatrics, Rhode Island Hospital

JOHN CANGEMI, Mayo Medical School, Medicine, Mayo Graduate School of Medicine

SHEILA BUCHBINDER, Columbia University, Ob/Gyn, Columbia Presbyterian Medical Center

RICK CHAMBERLAIN, University of Cincinnati, Family Medicine, Cincinnati General Hospital

NANCY CAMPBELL, University of Massachusetts, Surgery, Berkshire Medical Center

WILLIAM COOPER, Brown, Medicine, Roger Williams General Hospital

JOEL CORWIN, University of California, Los Angeles, Medicine, Cedars-Sinai Medical Center

KENNETH DAWSON, Northwestern University, Medicine, Northwestern University Hospital

MARC CULLEN, Rush Medical, Surgery, Presbyterian-St. Luke's

CHARLES DENBY, Brown, Medicine, Miriam Hospital

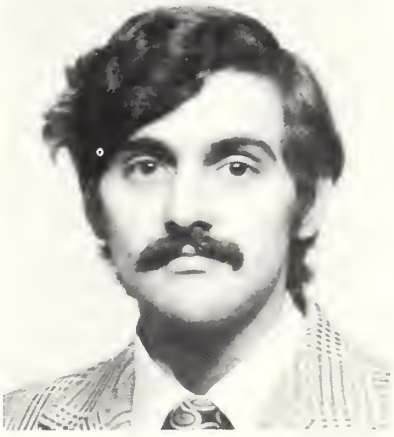
EDWARD CYBURT, Brown, Pediatrics, Rhode Island Hospital

DAVID DIAMOND, Harvard, Medicine, Mount Auburn Hospital

EDWARD DOMURAT, State University of New York-Buffalo, Medicine, E. J. Meyer Hospital

JONATHAN FLEISCHMANN, Washington University, Surgery, Washington University Affiliated Hospitals

DAVID EGILMAN, University of Rochester, Medicine, University of Rochester Associated Hospitals



DAVID FUERST, State University of New York-Stony Brook, Medicine, Long Island Jewish Hospital

EILEEN FITZGERALD, University of Rochester, Pediatrics, University of Rochester Associated Hospitals

HARRIS GALKIN, Brown, Ob/Gyn, Women and Infants Hospital

HAROLD GEVER, Temple University, Medicine, Temple University Hospitals

PAUL HERD, Emory University, Medicine, Grady Memorial Hospital

DOUGLAS GRIFFITHS, Tufts, Psychiatry, Maine Medical Center

JULIANNE IP, Brown, Family Medicine, The Memorial Hospital

JAMES GUANCI, University of Washington, Medicine, University of Washington Affiliated Hospitals

MARK IVANICK, Albany Medical College, Medicine, Albany Hospital

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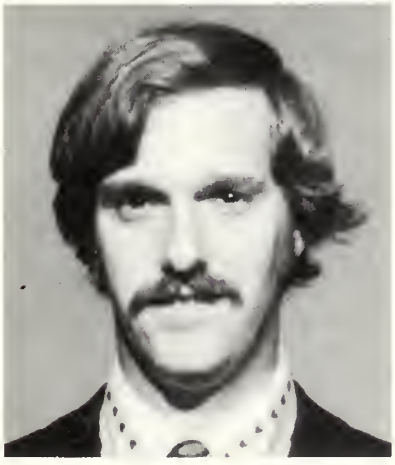

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* **Indications:** When the combination represents the dosage determined by titration: Adjunctive therapy in edema associated with congestive heart failure, hepatic cirrhosis, the nephrotic syndrome. Corticosteroid and estrogen-induced edema, idiopathic edema; hypertension, when the potassium sparing action of triamterene is warranted. (See Box Warning.) Routine use of diuretics in healthy pregnant women is inappropriate; they are indicated in pregnancy only when edema is due to pathological causes.

Contraindications: Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

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Editorials

Commencement

This is the third year in which the *Rhode Island Medical Journal* has been host to the graduating class of the Brown University Program in Medicine. This special issue is a token of the cordial relations that exist between the Medical School on the one hand, and the Rhode Island Medical Society and the *Journal* on the other. The Medical School has brought much to Rhode island medicine, and to the Rhode Island community. This has been manifest in many ways. Providence has, for example, become a recognized center of surgical physiology under the influence of Henry T. Randall, soon to retire from the Professorship of Surgery, and Fiorindo A. Simeone, now Professor Emeritus. Others too numerous to mention have added luster to this burgeoning medical center.

As for the graduates, we wish them every good fortune. Some will stay on for residencies in the Rhode Island area. Others will carry the good reputation of Brown to the country at large. We are impressed by the uniformly high quality of the residencies which members of the class have accepted. It speaks well both for the superior standing of the school and the excellence of its graduates. Some of both groups will elect eventually to practice in this area. We look forward to having all them join us as members of the Rhode Island Medical Society, whether as residents or later as members of the medical community. Good luck to all!

Smoking And Pregnancy

In 1957 Simpson first reported that babies born to women who smoke during their pregnancies are on the average 200 g lighter than newborn infants born to nonsmokers. Furthermore, infants weighing less than 2500 g were nearly twice as common among smokers as compared to non-smokers. Since this original and historic report, more than 100 papers confirming this relationship have led to the general acceptance of the concept.

Furthermore, differences in weight are in direct proportion to the number of cigarettes smoked and are independent of other infant and maternal factors known to influence birth weight.

A series of papers from the Ontario Perinatal Study has led to some important conclusions regarding neonatal and fetal death. Perinatal mortality was 27 per cent higher in infants of smokers as a group than in those of non-smokers. When statistical adjustments were made for other variables, it appeared that the perinatal mortality for those smoking less than a package per day increased by 20 per cent, while for those smoking more than one package per day the increase was 35 per cent. The increased risk of both in utero and neonatal deaths is concentrated in the period of 20 to 25 weeks' gestation.

Thirty per cent of the excess of perinatal deaths associated with maternal smoking is due to increases of 25 to 24 per cent respectively in placenta praevia and abruptio placentae for those who smoke less than one package per day, as compared to 92 and 68 per cent respectively for those who smoke more than one package per day. Other

studies have confirmed these findings indicating increases of as much as 28 and 48 per cent.

Young women with low parity and normal hemoglobin had an excess perinatal mortality of less than 10 per cent associated with smoking. On the other hand those older mothers with higher parity on public assist, and with hemoglobins of less than 11 g manifested an increased perinatal mortality risk of 70 to 100 per cent when they were heavy smokers.

Other studies have shown a significantly increased risk of spontaneous abortion among smokers as compared to nonsmokers. There is also evidence that among women who develop preeclampsia, there is a higher infant mortality risk among smokers as compared to non-smokers.

Not yet resolved are the effects of combined smoking and alcohol, or whether the effects of maternal smoking on fetal growth and development carry over into childhood. Recent studies, however, indicate the presence of nicotine and carcinogens in the breast milk of lactating females.

The Surgeon General's report on the Health Consequences of Smoking (1973) estimated that there are 4600 perinatal deaths annually in the United States attributable to maternal smoking. There has been a drop from 52 to 39 per cent in the proportion of men over 21 years of age who smoke. Yet it is discouraging that, while this progress was being made, the proportion of regular smokers among girls 15 and 16 years of age has increased from 9.6 per cent in 1968 to 20.2 per cent in 1974, and among girls 17 and 18 years of age from 18.6 to 25.9 per cent in the same period. There is, furthermore, some evidence that women find it more difficult to withdraw from smoking than do men, although pregnant women may be somewhat more amenable because of their awareness of the demonstrated risks.

It is important, therefore, that the following precautions be taken during the prenatal period. 1. Inquiry should be made of the expectant mothers as to whether or not they smoke. 2. They should be instructed as to the detrimental effects and in fact dangers of smoking during pregnancy, particularly in relation to previous perinatal loss, bleeding, or placental complications, and also anemia and maternal age. 3. It is important to obtain carboxyhemoglobin determinations or expired carbon monoxide levels, particularly in smokers. These latter may be graphic aids to assist in convincing smoking pregnant females of the dangers to which they are exposed.

Expectant mothers should be made cognizant of the dangers of smoking, and smokers should be urged to stop. Help should be offered to these young women, and they should be apprised of aids available to them through such agencies as the Rhode Island Interagency Council on Smoking, of which the Rhode Island Medical Society is a constituent member.

References

[1]Fielding JE: Smoking and pregnancy. *N Engl J Med* 298:337-9, 9 Feb 78

[2]United States Department of Health, Education, and Welfare. *The Health Consequences of Smoking* (DHEW Publication No [HSM] 73-8704). Washingtonn, DC, Government Printing Office, 1973.

Editor's Mailbox

RIPSRO and Ancillary Services

To the Editor:

With reference to the editorial, "Ancillary Services" (*RI Med J* 61(3):133-135, Mar, 78), we would like to advise you that RIPSRO has been selected as one of the ten demonstration sites for the establishment of a protocol for ancillary services. We have been preparing for this endeavor for some time. RIPSRO has already collected significant data relative to charges, and a physician committee, under the chairmanship of Robert M. Ryan, MD, has launched into this challenge with vigor.

Alton M. Paull, MD
President
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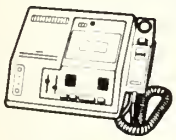

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Peripatetics

Providence Doctors who have obtained the rank of Fellowship in the American College of Cardiology include KENNETH B. NANIAN, RAYMON S. RILEY, and RICHARD S. SHULMAN, MDs.

* * *

JERRY M. KHERADI, MD, FACG, has been advanced to Fellow of the American College of Gastroenterology.

* * *

This year's officers of the Rhode Island Otolaryngological Society are RICHARD F. JUDKINS, MD, President; DAVID J. LANGENBRUNNER, MD, Vice President; and JAMES J. MURDOCO, MD, Secretary-Treasurer.

* * *

FREDERICK S. CRISAFULLI and HERBERT RAKATANSKY, MDs, have been elected Fellows of the American College of Physicians.

* * *

CHARLES E. MILLARD, MD, was named Rhode Island's outstanding family physician by the state chapter of the American Academy of Family Physicians. The award honors Doctor Millard for his many years in family practice, his activity in promoting continuing education for general practitioners, and his founding and serving as president of the Bristol County Medical Center.

* * *

Several local physicians to have become Fellows of the American College of Surgeons include: THOMAS F. CAHILL, EDWIN JOHN HENRIE, ARTHUR G. BONIVART, ROBERT D. TARRO, RICHARD WONG, HARRY M. IANNOTTI, HENRY J. ROBIDOUX, JR., THOMAS K. SHANINIAN, MICHAEL A. SHEA, and DANIEL B. REARDON II, MDs.

* * *

LEO STERN, MD, was selected by the French government to receive an honorary degree from the University of Nancy. Doctor Stern was chosen for the honor on the basis of his international reputation in neontal research.

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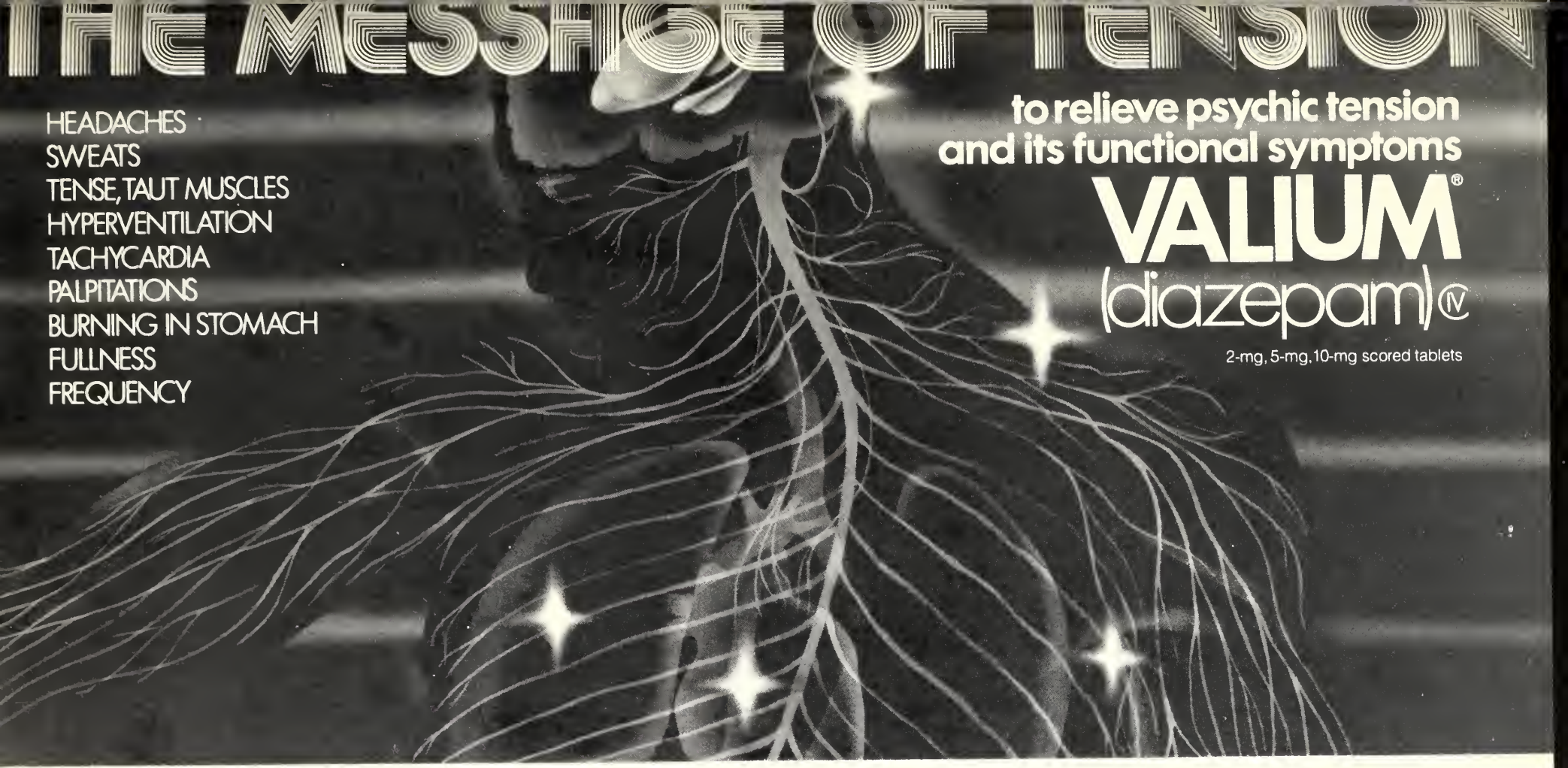
Rhode Island Medical Journal

June, 1978 Vol. 61, No. 6

Artificial Pancreas

See Page 243

Newsletter Enclosed



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Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.
Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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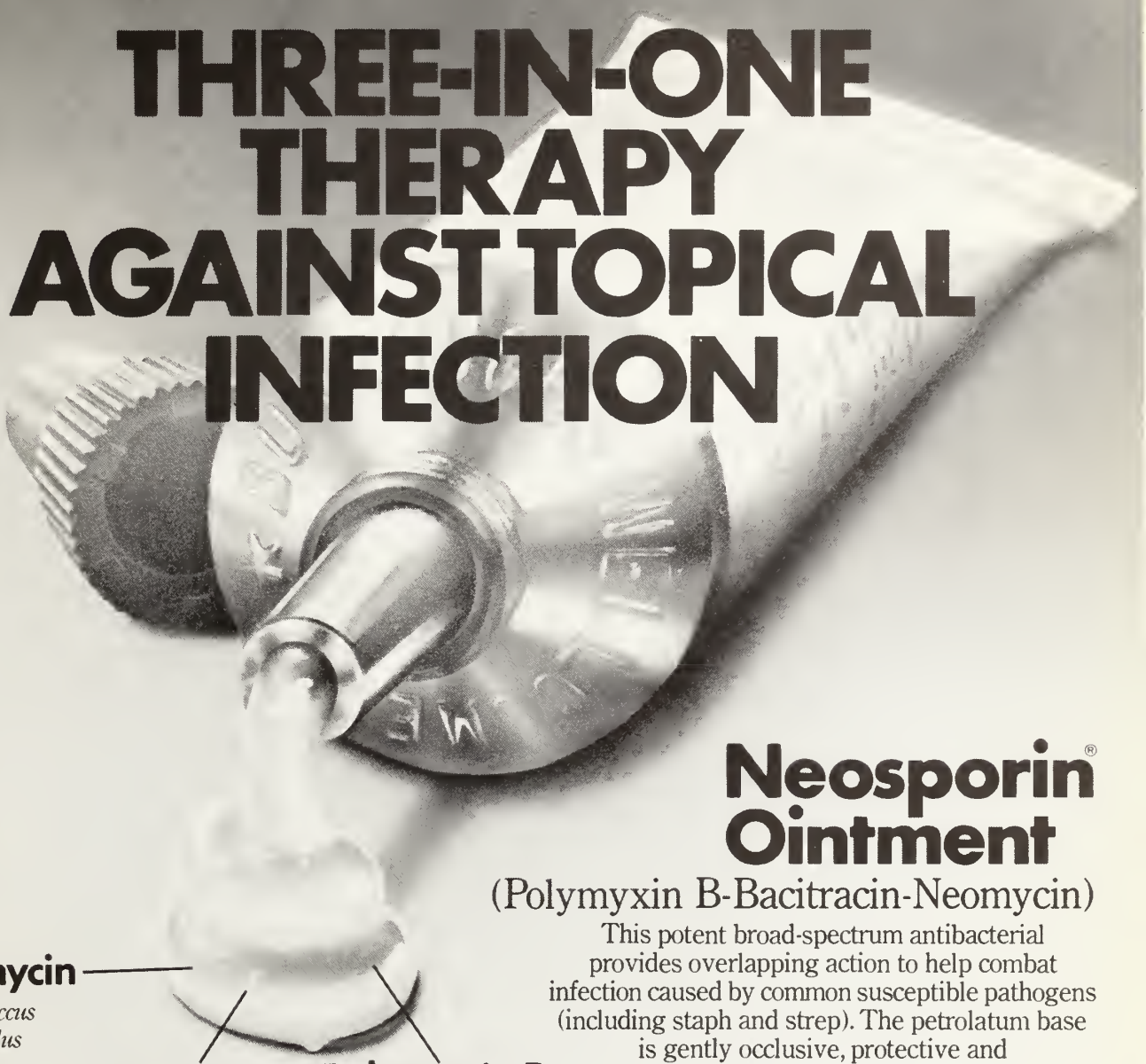

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Rhode Island Medical Journal

JUNE, 1978 VOLUME 61, No. 6

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NEWSLETTER . . . June, 1978

THE RHODE ISLAND MEDICAL SOCIETY

NEW OFFICERS: 1978-1979

The 167th Annual Scientific Assembly of the Rhode Island Medical Society was held May 17, 1978 at the Cranston Hilton Inn, Cranston, Rhode Island. The program of the assembly included scientific meetings conducted by the specialty societies, the 37th Charles V. Chapin Oration delivered by David E. Rogers, M.D., a General Business meeting of the Society and Installation of Officers for 1978-1979, and a Reception and Dinner. Among the guests of the occasion were Governor Joseph Garrahy, Mayor Vincent A. Cianci, Jr., and Mayor James L. Taft. New officers installed were Dr. Joseph E. Caruolo, President; Dr. Peter L. Mathieu, Jr., Vice-President; Dr. Charles L. Hill, President-Elect; Dr. Melvin L. Hoffman, Secretary; and Dr. Melvin M. Gelch, Treasurer.

Joseph E. Caruolo, M.D.
President

Dr. Caruolo, new President, is an Assistant Professor in the Program in Medicine at Brown University; Director, Division of General Surgery, Roger Williams General Hospital; member of the Blue Cross Board of Directors and of the Blue Shield Board of Directors; and Vice President of Rhode Island PSRO. He has been active in the Rhode Island Medical Society for many years; he is Past President of the Providence Medical Association; Past President of the Providence Surgical Society; and Residency Review Examiner for the American College of Surgeons, the American Medical Association, and the American Boards in the Surgical Specialties.

Peter L. Mathieu, Jr., M.D.
Vice-President

Dr. Mathieu, Vice-President, is the Director of Pediatrics at St. Joseph's Hospital, and a member of the staffs of Rhode Island Hospital, Roger Williams General Hospital, Women and Infants Hospital, and the Rhode Island Medical Center. He also holds the position of Clinical Assistant Professor of Pediatrics in the Program in Medicine at Brown University. In the Rhode Island Medical Society Dr. Mathieu is a member of the House of Delegates, chairman of the Social Welfare Committee, co-chairman of the Public Laws Committee, and a member of the Publications Committee. Active in community affairs, Dr. Mathieu serves as medical director for the Catholic Social Services, St. Vincent's Infant Home, St. Aloysius Home for Children, Our Lady of Providence Preparatory Seminary, Rhode Island School for the Deaf and Camps Tower Hill and War Bonnet.

Charles L. Hill, M.D.
President-Elect

Dr. Charles L. Hill is a delegate of the Providence Medical Association to the House of Delegates of the Rhode Island Medical Society, and President of the Providence Medical Association. In the Rhode Island Medical Society he is chairman of the Peer Review

(Continued on page 4)

President of Robert Wood Johnson Foundation is 37th Chapin Orator

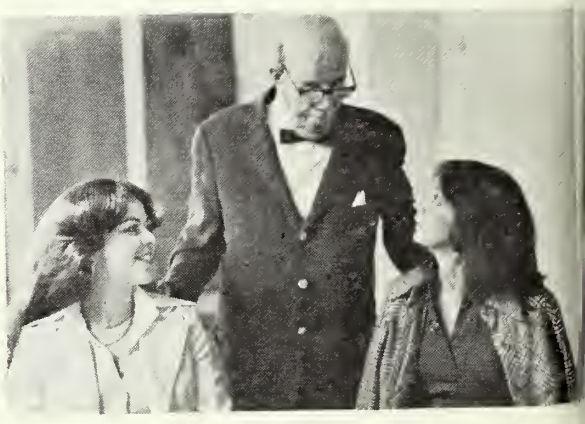
The 37th Charles V. Chapin Oration was delivered at this year's Annual Scientific Assembly by David E. Rogers, M.D., President of The Robert Wood Johnson Foundation, Princeton, New Jersey. Dr. Rogers is a graduate of Cornell University Medical College, New York, and completed postgraduate training at Johns Hopkins Hospital, Baltimore; The New York Hospital; and The Rockefeller Institute for Medical Research. He holds a honorary Doctor of Science degree from Thomas Jefferson University in Philadelphia.

Among his numerous professional appointments, Dr. Rogers has been Special Consultant to the Surgeon General (Staphylococcal Diseases); Consultant, Division of Physician Manpower, DHEW; Dean of the Medical Faculty, Vice-President (Medicine), and Professor of Medicine in The Johns Hopkins University; and he has held scores of visiting lectureships including ones throughout the United States and also at the University of Lund, Sweden; the Polish Academy of Sciences; the University of Sydney, Australia; and Hammersmith Hospital, England.

In 1976 Dr. Rogers was granted Mastership in the American College of Physicians; and in the same year received the Award of Distinction from the Cornell Alumni Association. He is the author of over a hundred publications; and holds membership in numerous groups including the Association of American Physicians; the Association of Professors of Medicine; the American Clinical and Climatological Association; and the Association of American Colleges, in which he is a Distinguished Service Member.

The subject of his oration was "The Scorecard: How Are We Doing in Health Care in America."

Annual Meeting



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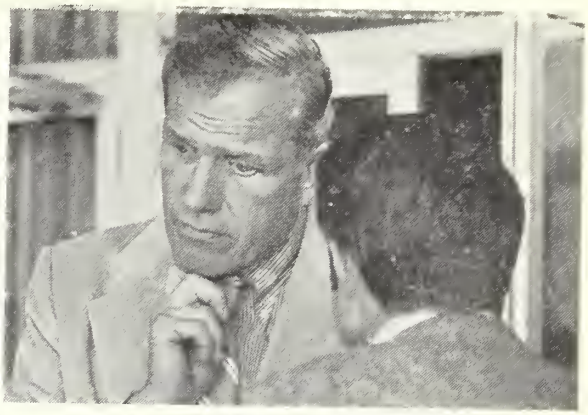

Dr. Charles E. Millard Wins Fiske Fund Competition 1977

Charles E. Millard, M.D., President of the Medical Associates of Bristol County, Assistant Clinical Professor, Department of Family Practice, Brown University, Adjunct Associate Professor, Department of Family Practice, University of Massachusetts at Worcester, and attending Physician, Rhode Island Hospital has been named as the winner of the Caleb Fiske Fund Essay Competition for the second consecutive time. The last man to have won this competition two times in a row was Charles V. Chapin in 1888 and 1889. The subject assigned to be written this year was "Application of Continuing Medical Education to the Actual Clinical Practice of the Physician." Dr. Millard's winning essay for the 1975 Competition was entitled, "Rhode Island Medicine in the Revolution."

The Fiske Fund Competition, one of the oldest in the country, was initiated through a bequest by Caleb Fiske to the Rhode Island Medical Society in 1834. Doctor Fiske, a Scituate Practitioner, was the fourth president of the state medical society from 1818 to 1823.

House and Council Meetings Scheduled

The following tentative schedule of major meetings for 1978 and 1979 has been established:

Monday, June 5, 1978 — Council

Monday, September 11, 1978 — Council

Wednesday, October 18, 1978 — House

Monday, November 13, 1978—Council

Monday, January 15, 1979 — Council

Wednesday, February 15, 1979—House

Monday, March 5, 1979 — Council

Wednesday, March 21, 1979 — House

Wednesday, May 16, 1979 — Annual Meeting

All Society members are invited to attend any meeting of the House of Delegates as spectators.

NEW OFFICERS

(Continued from page 1)

Committee and a member of the C.A.T. Task Force Committee. He is also a member of the Credentials Committee for the American College of Surgeons; a member of the Board of Directors for Rhode Island PSRO; and a member of the Planning and Resource Allocation Committee of the Rhode Island Hospital. Dr. Hill also holds the position of Clinical Assistant Professor in the Brown University Program in Medicine.

Melvin D. Hoffman, M.D.
Secretary

Dr. Hoffman, who will serve his second term as Secretary, is Clinical Assistant Professor in the Brown University Program in Medicine; Chief of the Division of General Medicine at Miriam Hospital; staff member of Rhode Island Hospital; courtesy staff member at Butler Health Center and Women and Infants Hospital; and a consulting physician at Woonsocket Hospital.

Melvyn M. Gelch, M.D.
Treasurer

Dr. Gelch, who will serve his second term as Treasurer, is Associate Surgeon in neurological surgery at Rhode Island Hospital; Clinical Instructor in neurological surgery at Tufts Medical School; certified member of the American Board of Neurological Surgery; and Fellow and member of the Rhode Island Advisory Committee of the American College of Surgeons.

Dr. Caruolo's Message

At the Installation Dr. Caruolo addressed the meeting with the following message:

"In accepting this office I first wish to say to the people of Rhode Island that the primary purpose of the Rhode Island Medical Society during the coming year will be, as it ever was and always will be, that of providing you with the highest quality of medical care possible.

"We are now as a nation and as a state in the process of creating a health care delivery system, a totally new concept not yet grasped by the public nor by many members of our own Society.

"For the next year I extend a warm handshake of cooperation to all the organizations whose goals are similar to ours — the executive branch of our state government admirably represented by Governor J. Joseph Garrahy, Director Joseph E. Cannon and the Health Services Council, the State Legislature, the Statewide Health Care Coordinating Council, Brown University Program in Medicine, Health Planning Council Inc., the Blue plans, Rhode Island Health Services (Search), the Medicare and Medicaid administration, Rhode Island PSRO, the Hospital Association of Rhode Island, Rhode Island State Nurses Association, and many others, seemingly *ad infinitum*. This unfinished litany has been a way of saying that the health care arena is vast and complex and if genuine cooperation and understanding is not practiced by all elements of the system there will be no improvements at all in the health care available to our people.

"Because in my opinion any health care delivery system without delivery of quality medical care as its keystone is an arch destined soon to crumble, therefore I pledge to work dilligently to place in proper perspective the role of the physician in the medical care delivery system and the role of medical care in the health care delivery system.

"I extend my appreciation to the membership of the Rhode Island Medical Society, and to its Nominating Committee, Council, and House of Delegates for the honor of permitting me to serve you."

Retirement from Prov. Medical Bureau

Mrs. Gertrude Boucher, chief operator of the Medical Bureau of the Providence Medical Association for [illegible] years, retired May 31, 1978. Mrs. Boucher, formerly a resident of Barrington, lives in Warwick. Under her direction the bureau functioned efficiently and often went well beyond the ordinary course of duty in the meeting of special demands. During the Blizzard of 78 Mrs. Boucher was the last of the several operators to be relieved after [illegible] continuous days of emergency duty at the switchboard.

BROWN UNIVERSITY

DIVISION OF BIOLOGY AND MEDICINE

Providence, Rhode Island 02912

863-3231

A Message From The Dean

BACK TO THE CLASSROOM

The medical faculty at Brown University (and in particular the Medical Curriculum Committee) have periodically reviewed the ways in which our medical students have employed their time in the last (eighth) semester of medical school. An analysis of these elective, individually-designed curricula indicates clearly that this eighth semester serves many purposes: it functions as a time for random clinical electives, for exploratory clinical experiences on other campuses, time for reflection and decompression, for taking inventory and even preparation for an impending shift in housekeeping.

The members of the new senior class (MD Class of 1979) were recently invited to consider a return to formal studies on the central Brown campus in order to engage in rigorous courses of possible relevance to their chosen professional careers. This eighth semester represents the last realistic opportunity for the medical student at Brown (or indeed at any other medical school) to enjoy a total intellectual commitment and to engage freely in uninterrupted scholarly activities. There will never be another period of time in their professional lives free of clinical or administrative responsibilities with their attendant energy drain. The Eighth Semester Program, in a sense, will permit them to experience the satisfaction akin to that of a sabbatical leave. It is hoped that many of the students will agree that this is likely to be more productive for them personally than a commitment to a cluster of clinical electives which offer neither challenge nor cohesive design.

With the help of special faculty counsellors, the Brown medical students will be encouraged to register for a series of campus courses in such areas as: neuroengineering; linguistic science; language acquisition in children; medical anthropology; cultural ecology; environment and urban affairs; population genetics; fertility; nutrition; alcohol, health and culture; culture and human behavior; American urban history; law and society; mathematical models in physiology; critical reasoning; radiation physics; computer sciences; ideas, myths and themes; modern science and human values; perception; trends in cognitive development; welfare economics; social ethics; deviant behavior; conceptions of men, diversity and coherence; learning and conditioning; psycholinguistics; human information processing; principles of demography; ethics; religion and society; as well as advanced courses in chemistry, physics and biology. In excess of ninety superior courses are available to our senior medical students within the structure of this program.

For those students participating in the Eighth Semester Program, a limit of three campus courses is recommended so as to leave them some time for limited participation in a few clinical conferences (eg, hospital grand rounds, special lectures). It is too early to say how many of the next class of seniors will venture into the program.

If it could be shown that the conventional use of the last five months of medical school (ie, enrollment in essentially undemanding clinical electives) provides the student with critical skills; or conversely, that intensive

classroom activity during these final months deprives the students of these needed skills, then this program would not be proposed. However, it is the virtually unanimous conclusion of those concerned with medical education at Brown that the years of internship and residency will more than conpensate for this alleged loss of practical skills.

It is customary to regard the formal preparation of the physician as an educational continuum with the MD diploma awarded somewhat arbitrarily between the undergraduate and graduate phases of the process. The conventional curricular sequence in this process consists first of education in the liberal arts and sciences followed by the basic social and medical sciences. Thereafter, supervised education in the clinical sciences, with a gradual weaning process at the end of some twelve years, produces the independent practitioner of medicine. This traditional design has been modified recently on some campuses by the introduction of patient-contact before the basic sciences have been completely explored; but the fundamental curricular progression is preserved nevertheless at most medical schools.

The Eighth Semester Program at Brown represents a conscious reversal of the classical educational sequence in the making of the physician. A program of the kind described above is easier to initiate and maintain in a young medical school which is both physically and functionally a part of the University. The continuance of this Eighth Semester Program experiment requires that both faculty and students view medical school not as a trade school but rather as one element in a lifelong learning process.

Stanley M. Aronson, MD
Dean of Medicine
Brown University

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Final classification of the less-than-effective indications requires further investigation.

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* **Indications:** When the combination represents the dosage determined by titration: Adjunctive therapy in edema associated with congestive heart failure, hepatic cirrhosis, the nephrotic syndrome. Corticosteroid and estrogen-induced edema, idiopathic edema; hypertension, when the potassium sparing action of triamterene is warranted. (See Box Warning.) Routine use of diuretics in healthy pregnant women is inappropriate; they are indicated in pregnancy only when edema is due to pathological causes.

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Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

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Application of Continuing Medical Education to Actual Clinical Practice of the Physician

We Must Change To Meet The Challenges Of Altered Circumstances

By Charles E. Millard, M.D.

Continuing medical education is widely espoused and in many circles approved and accepted as a means of maintaining the competence of the practicing physician. Although this concept undoubtedly has merit, it would appear that this is a simplistic solution to a complex and extremely important problem. At this time continuing medical education is essentially experimental and pragmatic in method and content. Despite this fact it is being increasingly mandated by many groups. However, what should be mandated before this excellent concept is destroyed by well-intentioned individuals is an in-depth study and reassessment of this whole educational undertaking.

Just eight years ago the only continuing medical education requirement anywhere in the country was that of the American Academy of General Practice. Now CME is required by 17 medical societies, 14 state osteopathic associations, the American Osteopathic Association, 8 specialty societies, and one specialty board (The American Board of Family Practice), and 19 state licensing boards will require CME by 1981. Moreover, three other specialty boards—surgery, thoracic surgery and colorectal surgery—have made CME mandatory for newly certified diplomates.

"For all practical purposes, CME is no longer voluntary for practicing physicians," asserts Doctor C. H. William Ruhe, the AMAs leading expert on continuing education. "In more than half the states, CME is required either for licensure or medical society membership. It doesn't matter whether other states follow suit or not, although I expect they will, because CME is now generally viewed as necessary for the practicing doctor. The medical profession has accepted the concept and so has the public."[1]

Publication supported in part by Fiske Fund.

CHARLES E. MILLARD, M.D., *Clinical Assistant Professor of Family Medicine Brown University, Providence, R.I.; Adjunct Associate Professor, University of Massachusetts Medical School at Worcester; Founder and President, Medical Associates of Bristol County, R.I.*

Historical Background

Miller has stated that, despite a seemingly endless round of conferences, symposia, round table discussions, and panel debates over the last twenty years, continuing medical education in 1974 is not greatly different from what it was in 1964 or in 1954

for that matter. There is simply a greater quantity of the same familiar things.[2]

Human knowledge, the substance of education has more than doubled since 1950. In this same period more words have been communicated and more books have been published than in the four hundred years since the discovery of printing.

During this time medical knowledge has doubled, and medical education is rapidly changing its aims and concepts. Most of the drugs and technological procedures now employed in clinical medicine were introduced in these last two decades. Twenty years ago the physician was supported by three ancillary personnel; today there are thirteen, and it is predicted in 5 years that the number will be twenty.

All of these facts are having a profound effect upon the doctor and his relationship with his patient, with his place in society, and with the attitude of the public toward him. The progressively decreasing half-life of medical knowledge has led to public concern for the physician's competence. In the past, changes of this magnitude evolved over decades or centuries rather than a few years.

The laity has become increasingly and inextricably involved in medicine through the control of hospital boards, government Medicare and Medicaid, third party payers, and the escalating costs of medical care. In view of these rapidly evolving changes the medical profession must make such adjustments as appear needed. We cannot maintain the anachronistic position of the physician in 1950, who could keep abreast of current knowledge by occasional attendance at conferences. Professional reorganization is now necessary to cope with the rapid obsolescence of knowledge and the increasing volume of new concepts. The profession and the public both justifiably demand continuing high standards.

The Problem

The medical profession is now confronted with the problem of assuring the maintenance of professional competence of its members during their entire careers in clinical practice. It has been stated that once a problem has been defined, usually a solution can be found.

The magnitude of this problem is best put into its proper perspective when one ponders the many variables. First, there is the diversity of practices—specialties, subspecialties, solo, and groups, which may be specialty or multispecialty; second, geographic variations—urban, suburban, and rural; third, variables of population which may be endemic or ethnic, and various mixtures of races, creeds, and medical superstitions; fourth, variations of economic and sociological factors, which are further compounded by insufficient personnel and resources, and insufficient organization of personnel and resources; and, finally, suboptimal performances by personnel.

Additionally, how do we best measure a physician's knowledge, his interpersonal relationship skills, his perceptual skills, and his psychomotor skills.

The principal objective of continuing education is to provide for the constant improvement of medical care. This is true for a single practicing physician as it is for a community of physicians. To accomplish this goal the physician must have some way of examining what it is he does, so that he might know precisely what he might do better or differently. This is the essence of education: specific identifications of educational needs based on analysis of real situations, with subsequent introduction of specific educational efforts directed towards those needs. To date, most programs for continuing medical education have not been organized on this basis.[3]

The Possible Solution — Continuing Medical Education

The American Academy of General Practice originally introduced the concept of continuing education as a prerequisite for membership. When Family Practice was recognized as a specialty, the American Board of Family Practice introduced the concept of recertification every seven years as a requirement for maintenance of membership. At the present time CME has been mandated by several states for relicensure, by other specialty societies for membership, by state medical societies, and, finally, by many malpractice self-insurance programs.

Perhaps this is an inevitable development of our time, but we owe it to all concerned to examine with the utmost care the rationale, the objectives, and the methods of continuing medical education before we impose this

costly obligation on ourselves and our successors. Practically every "good" movement of our time has begun as a voluntary ideal, but has ended in a set of regulations administered by a bureaucracy.[4]

A Critique of Continuing Medical Education

Many criticisms of the present-day programs are heard: 1. We should follow the method of andragogy rather than of pedagogy and problem-orientation rather than subject-orientation! 2. Diagnosis of patient care needs must precede educational therapy. 3. CME alone falls short of the goal. We shall review each one briefly.

Pedagogy vs. Andragogy Subject Orientation vs. Problem Orientation

One of the often voiced criticisms is that most of these programs involve a lecture format with a student-teacher relationship. Knowles has supported this observation and espouses andragogy, the art and science of helping adults to learn, as distinct from pedagogy, the art and science of teaching children. He uses this term to make clear certain assumptions which are crucial about the characteristics of adult learners in contrast to the assumptions made in pedagogy about child learners.

These four assumptions are:

1. As a person matures, his concept of self moves from one of being a dependent personality toward one of being a self-directing human being.
2. As a person matures he accumulates a growing reservoir of experience that becomes an increasing resource of learning.
3. As a person matures his readiness to learn becomes oriented increasingly to developmental tasks and social roles.
4. As a person matures his time perspective changes from one of postponed application of knowledge to immediacy of application; accordingly his orientation to learning shifts from one of subject-centeredness to one of problem-centeredness.

In the adult, learning occurs in the here and now. It must be congruent with the demands of the world of work. The individuals who make up health manpower tend to be goal oriented. Their education and training must make sense to them in terms of work demands.

The developmental tasks of adults usually present problems to be solved. The daily diet of adulthood is made up of exploring alternatives and selecting from options — in short, of decisions, large and small.[5]

Kurt Lewin, the renowned social scientist, in his studies has confirmed that the favored lecture method of content transfer is an ineffective educational method of affecting behavorial changes.[6] This course is the all important point of continuing education.

Educators of adults have long proposed that the best approach to a continuing educational program involves studying problems rather than subjects. In 1926 Lindeman wrote that adult education represents a process in which the adult learns to become aware of and to evaluate his experience. To do this he cannot begin by studying "subjects" in the hope that some day this information will be useful. On the contrary, he begins by giving attention to situations in which he finds himself involved, to problems which include obstacles to his self-fulfillment.

Two decades later Leland P. Bradford in his classical article "Planning the Work-Group Conference" stated as his first priority: The successful work conference demands that problems, rather than topics, be dealt with and that these problems be those seen by the delegates as their problems.

"Problem-posing" adult education, as defined by Friere, rejects communiques and embodies communication. Liberating education exists in acts of cognition, not transferals of information. Open and free teacher-student communication is essential. Such communication is difficult from the lecture podium. The teacher is not merely the "one who teaches", but is also himself taught in dialogue with the students, who in turn, while being taught, also teach. They become jointly responsible for a process in which all grow, the students, no longer docile listeners, are now critical co-investigators in dialogue with the teacher. Friere believes that in open communication and discussion with the adult learner the instructor, reflecting a new humility, seeks to help the learner identify problems and a corresponding curriculum that relates to reality.[6]

Continuing education is a broader, larger concept than adult education, in that it implies the notion of the unending continuum of purposeful learning and individual

self-development. More than any other segment in the educational continuum it embodies John Gardner's concept that the ultimate goal ". . . is to shift to the individual the burden of pursuing his own education." If there is anything wrong with that fine sentence, it is that it does not say "the burden and the reward."[5]

Miller believes that we shall not meet the goals set for continuing education unless the attitudes which underlie personal responsibility for learning are implanted in physicians at the beginning of their professional education and nurtured throughout its course — not merely imposed at its conclusion. This will require teachers who play a different role from that commonly encountered today. Such teachers will focus attention of students first upon the process of inquiry into problems rather than upon the acquisition of facts about problems; they will be more concerned with exploring issues with students than with providing those students with answers to questions they have never recognized; they will be less devoted to assessing the knowledge students acquire than in determining the ways in which that knowledge is used in fulfilling the professional tasks they face. Such a role requires more listening and less talking by teachers, and that is scarcely the way we most regularly behave, despite our verbal acknowledgement of better instructional methods.

Dickinson Richards said many years ago:

"For our students we have cast the lecture into the outer darkness as an outworn remnant of an earlier pedagogic era; but for ourselves, we teachers continue to lecture to each other almost incessantly. We dart all around the country ... winter and summer, spring and fall, leaving out appointed tasks—such as teaching students—and when we get there what do we do? We sit down and listen to lectures, or worse still we stand up and give them."

Regrettably, a recently completed survey by the World Health Organization of continuing education in member nations has shown that the lecture is still the most widely used instructional method by a large margin.[2]

Diagnosis of Patient Care Needs Must Precede Educational Therapy

A second weakness has been that the diagnosis of patient care needs seldom preceeds educational therapy. Most current learning experiences in continuing medical education are designed to achieve only information transfer, implying that most patient-care deficits derive from lack of physician-learner knowledge. The literature of continuing education would make it seem that it is our failure to apply new knowledge that represents the weakest link in the chain of assuring that the highest quality of medical care is delivered to the greatest number of patients.

Miller has very astutely pointed out that the correction of the major health problems in the United States and in other parts of the world does not appear to require any substantial body of new knowledge. Rather it requires that physicians use the knowledge they already have in a different way.

He states that physicians can be of greatest service to society if they work at preventing disease rather than treating it. But which gets more academic attention and rewards — the replacement of damaged arteries and heart valves or the prevention of smoking and obesity? We have been told again and again that most of those who consult us are the anxious well rather than curable sick. But which gets more attention in our education programs — the pharmocologic action of drugs and their side-effects or the skills of listening and providing reassurance? Studies of the compliance of patients have repeatedly revealed a high level of failure to follow the physician's instructions and even a widespread failure to have prescriptions filled. But our educational programs seem far more often to deal with what is new in the therapeutic armamentarium than with ensuring that either old or new treatments are used by patients in the manner recommended by their doctors.

Miller concludes by stating that he is afraid that most of us have been seduced by the notion that the professional responsibility which he cited as a primary reason for continuing education is a responsibility to keep abreast of current information even if the information may have little use to many patients; even if it means diverting attention from other elements of professional com-

petence that may be of greater importance to those we serve. If we are convinced that "keeping up" is the goal, we are then easily led to the conclusion that the need in continuing education is simply for more instruction. In the 1974-1975 academic year 3,677 accredited courses were offered compared to less than half that number ten years earlier.[2]

An issue relevant to Miller's suggestion was posited in the following question by Wynder: "Is it really necessary that we must end our *days old and sick* if we alter our current health care system?" This question raises an important issue about the future of our society — the issue of conserving *human* capital and resources, an issue more vital and pressing than the problems of conserving energy and economic capital and resources. The medical profession and society's planners for the future must face responsibly the issues raised by this question.

To understand the magnitude of this issue the following facts are offered. The population over 45 years is growing, and the population younger than 21 is declining. By the year 2000 the United States population over 65 years will have grown by 40 per cent and that 45 to 64 years old will rise by 50 per cent. *Two thirds of medical care spending is accounted for by these age groups.* These age groups represent the rising burden of chronic disease; e.g., heart disease, cancer, and stroke, the current cost of which in 1976 is approaching 50 billion dollars in direct medical care spending, and probably twice that amount in indirect (low income) costs of morbidity and premature mortality.

Much of this spending on chronic disease is unnecessary. Nature did not intend us to grow old and ill; we were designed to die young of age, but free of disease. Epidemiologic evidence suggests that we can prevent a substantial proportion of chronic diseases by improving life-styles and by preventive medicine.

A corollary of this is that the principal function of medicine is to keep people well and free of disease, a state that could be reached by "life-style" medicine. A society free of what we know to be avoidable illness and disability is a society that would put its funds to better use than fighting hopeless battles against unnecessary illness. By placing an emphasis on preventive medicine the profession could nurture such a society?

Wynder and Miller both suggest that by placing the emphasis on preventive medicine physicians could be of greatest service to society. Unfortunately, the emphasis of continuing medical education is on keeping abreast of current information even if this information is of little use to many patients. This is certainly an issue that must be addressed by those who plan continuing education programs in the future.

CME Not Enough

The following quotations by several leading authorities certainly suggest that the present programs of CME leave much to be desired.

Sanazaro has stated that careful sifting of the literature on continuing education for hard data leads to the surprising discovery that it has seldom been reported to change physician behavior promptly or substantially. A national symposium in 1975 described the scope and rationale of continuing medical education at length but presented few data on its effectiveness. He concludes that in the absence of alternatives CME must remain the foundation stone of professional commitment to maintaining competence, but that there are serious limitations which must be recognized:

1. CME cannot be relied on to remove deficiencies in performance when the physicians already possess the knowledge but simply do not apply it.
2. It is possible that those physicians most in need of CME are not able to attend conferences designed to assist them in understanding why their performance should be changed.
3. Many physicians feel that they are providing adequate care and are keeping up with new developments and don't need CME.
4. It is well documented that on the average, with advancing age, physicians devote less effort to CME, demonstrate less cognitive learning, and perform at a lower level.

Sanazaro concludes that, although the

profession has adopted CME as the best method of improving performance i.e. by responding to "educational needs" found by audits, an impartial critic would have to conclude that CME, in and of itself, has too little effect on practice habits to be the mainstay of professional self-regulation of quality. Sanazaro cites several previous studies which showed how CME failed to change practice habits.[8]

Houle states: "While continuing education will not cure all the problems of the profession, without it no cure is possible." Though essential, continuing education is not a cure-all, nor can it be used effectively in isolation from other strategies.[5]

Medical educators and health care deliverers find it difficult to define the relationship between continuing education and clinical competence. Part of this difficulty is that clinical skills do not lend themselves easily to evaluation.[9]

Mandatory continuing medical educational programs as they are now administered are predictable failures. The educational objectives of these programs are centered around improving the efficacy of the practitioner. Improved patient care arising from a change in the behavior of the practitioner is sought. Attainment of this goal has not been substantiated in any objective evaluation.[6]

It would appear from all of the previously cited evidence that CME alone will not suffice to improve patient care. The overemphasis on cognitive issues in education derives from the platonic fallacy that knowledge is virtue and that if one knows the facts his performance will be outstanding.[10]

CME In Conjunction With Other Modalities — The Answer

Haddad has suggested that the educational needs should conform to the professional needs of a geographic area. There is no better way to accomplish this than by active participation of all physicians and hospitals in the area in a concerted and sustained free exchange of knowledge. There must be a bold change in basic attitudes regarding the present assumed prerogatives of the individual physician as well as of hospitals and teaching institutions.

No examination, conventional test, or peer review, as presently organized, is valid or equitable in assessing the performance of the physician. There is only one universal equitable yardstick that can measure the knowledge and performance of the physician, whatever type of practice or geographic area; the yardstick is the patient's chart.

In the final analysis, it is the performance of the physician that matters, and this performance profile is the only objective and valid testimonial tailored to his practice and thus equitable and just.[11]

The rapid growth of medical auditing, and the rising demand of public accountability certainly support Haddad's thesis. It has been rather forcefully shown that a combination of medical auditing and CME can better contribute to quality assurance. Sanazaro cites four instances under which the technical quality of care showed impressive improvement using these methods. He is of an opinion that quality assurance is now interpreted increasingly as a near guarantee that the actual care given every patient meets the prevailing standards of quality. This is the emerging reality within which we must judge the present adequacy of medical auditing and CME.

It is his contention that the one obvious common denominator in these studies is a professionally acceptable form of surveillance or monitoring. Each of the techniques for monitoring achieved that which is impossible for CME: each influenced the physician at the *time and place he was actually providing care to an individual patient.* Acting directly or through enhanced awareness and motivation, each of these assisted the physician in applying more fully the information and skills that he already possessed.[8]

Audits as a useful tool in assessing a physician's performance must be recognized as having limitations just as CME has its limitations. Among these are, how well do entries in the medical record reflect what actually happens to the patient? Notation of a cardiac murmur may be present, but does it accurately reflect the cardiac findings? Can we be sure that the patient has received the medications noted on the chart? These data must be studied in more depth to be sure they actually reflect what is taking place.

Audits are not especially well designed to assess a physician's knowledge, or new ideas, or his familiarity with local resources. They provide little data concerning the nature of the physician's interpersonal skills. Other

techniques will be required to test his perceptual and psychomotor skills. Unfortunately the present state of medical science is such that vigorous auditing can only be applied to a narrow segment of patient care. Therefore, the full spectrum of professional monitoring should include, in addition to the auditing committee, all hospital committees that relate to quality.[12]

The foregoing discussion points up the shortcomings of both the audit and continuing medical education either singly or combined. As far as hospital care is concerned, Professional Standards Review Organizations and the Joint Commission on Accreditation of Hospitals have assumed the major responsibilities in setting up quality of care assessment procedures. Unfortunately, most of our effort attempting to measure competence has been directed at hospital care, but hospitalized patients constitute only a miniscule proportion of the patient population.

The Real Problem

The aim of continuing medical education is to assure the delivery of high quality medical care by the greatest number of physicians to the largest number of patients. It is patently obvious that most patients are treated in physicians' offices.

This was vividly and conclusively demonstrated by White et al. They showed that within the average month in Great Britain and the United States, for every 1000 adults (sixteen and over) in population, about 750 will experience what they recognize and recall as an episode of illness or injury. Two hundred and fifty of the 750 will consult a physician at least once during that month. Nine of the 250 will be hospitalized, five will be referred to another physician, and one will be sent to a university medical center within that month. *Expressed simply, 96 per cent of people who experience an illness or injury are seen in physicians' offices and only 4 per cent in hospitals.*[14] Obviously then these facts demand that any plan for continuing education should be focused preponderantly on the problems of office practice and not on hospital cases. Parodoxically, until now this has not been the case, and until this is accomplished continuing medical education will not achieve the purpose for which it is intended.

These facts raise serious questions about the nature of the average medical student's experience, and that of some of his clinical teachers, with the substantive problems of health and disease in the community. In general, this experience must be both limited and unusually biased if in a month only 0.0013 of the "sick" adults or 0.004 of the patients in a community are referred to university medical centers. Under such circumstances it would be difficult, if not impossible, for those at medical centers, without special efforts, to obtain valid impressions of the overall health problems of the community.[13]

Interestingly, Escovitz states that in the past two decades, community hospitals have become increasingly important in patient care and often have become the focus of community-based health service programs. Busy physicians appreciate the convenience of having continuing education programs that are based in their own hospitals and that revolve around patient care problems they encounter in their own institutions.

The American College of Physicians developed the first major program of physician self-evaluation of medical knowledge. In these activities the physician takes examinations at home, which then are graded by the sponsoring organization and returned with the correct answers and appropriate references so that the examination may be used as an experience in self-evaluation and learning. The relative strengths and weaknesses in the physician's knowledge are pointed out to him, and he is encouraged to concentrate his educational efforts on correcting his demonstrated deficiencies.

An extension of this process was later developed at the University of Wisconsin by Thomas Meyer, MD. In his program a medical assistant visits the physician's office and develops an individual physician practice profile. This profile is a description of the physician's practice, encompassing the kinds of patients he sees and the problems he faces. Next, the physician is given an examination in those areas of medicine that represent a significant part of his actual practice experience. It then becomes possible to determine the physician's knowledge deficits and to relate these "gaps" to the patient care problems he encounters most frequently. This information is given to a preceptor-

teacher who works with the physician in developing an educational program to fill his defined knowledge deficits. Although this process takes considerable time and effort, the physician is aware, if and when he does poorly on an examination, that the questions relate directly to problems presented by his own patients.[14]

The problem of developing techniques to assess the proficiency of care rendered in an office was addressed by Bjonn and Cross. By use of the problem oriented record, they describe several types of analysis. Periodically they review data-based information to determine their follow-through on problems unmasked by screening studies. Guest experts are invited to review the records of patients with problems pertaining to their specialties. It is expected that the lucid display details of management afforded by the records will promote constructive critiques by the educator-consultants that are relevant to the clinical problems that occur in their practices. Sibley has recently reported an elaborate design for audit of office-based primary care.[10]

An experimental study by Hammaty in Charleston, West Virginia, in which the physician can set standards for care in his own office and review charts to determine the extent to which these standards are met, indicates that the system can work in an office setting, as well as in a hospital setting.[14]

It is obvious then that much work and research must be done to determine the most effective methods to evaluate the private physician's educational needs in relation to his office practice. The present methods clearly are just beginning to address the problems.

Summary

The many warnings of leading experts in the medical and educational field attest to the facts that CME does not change physician behavior at the present time and that CME is at best only a cornerstone on which to build a program for improving the competence of the physician. Nonetheless, the stampede for continuing medical education rolls merrily onward. This simplistic approach to such a complex problem forbodes disaster.

What can practicing physicians do to avert such a disaster? The following is suggested as one possible way that organized medicine can guarantee continuing competence of the greatest number of its members. Medicine should temporarily call a halt to the investment of further monies into additional continuing educational courses and divert at least 90 per cent of it to studying this problem.

The author of this paper suggests that since 96 per cent of patients are treated in the physician's office, this is where the emphasis of research on methods should be directed.

The following is submitted as one possible approach to the problem. There is almost universal agreement among educators that practicing physicians should be tested on problem-solving ability and not on memory. Haddad has pointed out that there is only one universal equitable yardstick that can measure the knowledge and performance of the physician, whatever the type of practice or geographic area; this yardstick is the patient's chart.

In the milieu of today's medical practice with the ever-present threat of malpractice, a complete and thorough chart is the physician's best defense both in the office and the hospital. Fortuitously, Doctor Lawrence L. Weed recently introduced a system which makes it possible for a universal problem-oriented approach to the monitoring of medical care. In an editorial in the *Archives of Internal Medicine,* Bogdonoff states: "The Weed system provides us with a way in which to organize our thoughts so we more effectively organize our care and our research pursuits. This is so commonsensical and patently necessary there can hardly be any further argument about the scientific basis of the Weed system. . .second is the ability of the profession to provide a monitoring and auditing of medical care that would permit continuing surveillance of the medical practice. The Weed system allows for assessment of the scientific bases for clinical decisions, and therefore, re-examination and recertification of the practicing physician."[15]

The Weed system should be most acceptable to all physicians, as it can be accomplished with the least turmoil and confusion. A Xerox® copy of the office record could serve as a past history in the hospital record and make for a complete continuity of records, thereby improving care.

The second concept which might also be

adopted, is the one previously alluded to as developed by Thomas Meyer, MD at the University of Wisconsin. After the individual physician's practice profile is ascertained, he is examined in those aspects of medicine that represent a significant part of his actual practice. An education program is then developed to correct his deficits.

Thirdly, as suggested by Escovitz, one could measure the effect of continuing education on patient care by the following method:

Four logical steps that must be taken in order to relate the evaluation of the quality of medical care to continuing education are (1) setting standards for care, (2) comparing actual performance to standards, (3) planning and implementing "remedial" programs when necessary, and (4) evaluating the extent to which the first three steps have resulted in the desired change in patient care.[14]

The implementation of these three steps would assure the constant improvement of medical care because it offers the physician a method of examining what he does, so that he may know precisely what he may do better or in a different way. As stated earlier, this is the essence of education: specific identification of educational needs based on analysis of real situations with subsequent introduction of specific educational efforts directed towards those needs. Such a system would be fair to all, since all must keep charts. It seems, moreover, that it could be introduced in a very short period of time, which should prevent further incursions and restrictions by outsiders who, though well-intentioned, have little understanding of the problems of medical practice.

The tocsin sounded so often by Doctor Ward Darley must be sounded again — no changes should be made except after adequate study and demonstration of their worth in American society.[3] There is unanimity of opinion that changes must be effected to assure the continuing competence of the practicing physician.

Though change cannot be stopped — and it should not be stopped when it will be beneficial to the public good — it can be properly guided and managed. In order to assure the proper management of these changes we must evaluate critically and honestly our continuing educational needs. We must seek constantly for the best possible way to supply these needs and the best methods to evaluate the results of such educational endeavor. Simply, we must make an educational diagnosis of our needs before we institute therapy. The courses of instruction cannot be left to chance, but must be undertaken only after the need of each physician has been determined.

In conclusion, we would be well advised to study thoroughly the advice offered once by John Gardner who said:

"I am always puzzled by people who talk as though advocates of change were just inventing ways to disturb the peace in what would otherwise be a tranquil community. It would not otherwise be a tranquil community. We are not seeking change for the sheer fun of it. *We must change to meet the challenges of altered circumstances. Change will occur whether we like it or not.* It will either be a change in a good and healthy direction or change in a bad and regrettable direction. There is no tranquility for us."[15]

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The Hybrid Artificial Pancreas

The Hybrid Artificial Organ Offers An Exciting New Approach To The Control Of Endocrine Disorders

By Pierre M. Galletti, M.D., Ph.D.

The Replacement of Failing Organs

Over the past thirty years two main approaches have been followed to substitute for organs which have ceased to provide adequate function: the transplantation of a natural organ obtained from a donor organism and the implantation of an artificial prosthesis which can substitute for the missing function. More recently, with the advent of a technology for three-dimensional tissue culture on polymeric substrates, a new concept has arisen, that of hybrid artificial organs, ie vascular prostheses in which specialized living cells from donor animals are grown in vitro and later implanted in the blood stream of the host organism. In hybrid artifical organs the permeability properties of the synthetic polymers which serve as the scaffold for tissue culture are selected in such a manner that cells and materials of protein nature cannot escape from the tissue culture compartment of the device, thereby preventing immune rejection phenomena. The blood which circulates through the lumen of the vascular prosthesis serves as the culture medium, providing oxygen and nutrients to the transplant. Continuous perfusion also allows the secretion products of the transplant to diffuse into the blood stream, provided their molecular size is below the exclusion point of the membrane (typically 25,000 to 50,000 molecular weight).

The present text is an update of the keynote address at the "Journees de Diabetologie de l'Hotel-Dieu" in May, 1977 in Paris.

PIERRE M. GALLETTI, M.D., Ph.D., *Vice President, (Biology and Medicine), Brown University, Providence, Rhode Island*

Pancreas Transplantation

Transplantation of insulin-producing tissue provides an attractive approach to the treatment of diabetes. Several studies have demonstrated that transplantation of the whole pancreas in insulin-dependent diabetic patients restores glucose homeostasis to normal without further need for injection of exogenous insulin. Unfortunately the requirement for continuous immunosuppressive therapy after transplantation, and the extensive surgery involved in implanting the donor pancreas, including the

need to provide drainage for acinar enzymes, have burdened this procedure with an unacceptably high morbidity and mortality. In the past two years attempts have been made to implant isolated islets of Langerhans into the liver through portal injection, in place of the whole pancreas transplantation. Initially it was hoped that because this would decrease the mass of transplanted tissue and restrict it to endocrine elements (thought to be immunologically privileged), there would be less need for immunosuppression. This therapeutic approach has been used in diabetics who had previously received a kidney transplant because of end-stage renal disease. It has proven partially effective for several months. It causes neither portal hypertension nor hepatic dysfunction, and does not affect the transplanted kidney. However there remain major problems of isolating large number of islets from human cadavers, and immunosuppressive therapy is still needed, because endocrine pancreatic tissue is rejected faster than skin. More recently autologous islet transplantation has been carried out in a few patients after a nearly total pancreatectomy for chronic pancreatis and intro-operative processing of the resected pancreas with collagenase to separate the islets from exocrine tissue. The initial results are quite encouraging, but this will obviously remain a limited indication for islet transplantation.

The Hybrid Artifical Pancreas

The hybrid artificial organ approach is particularly attractive for endocrine pancreas substitution, since the membrane barrier allows the use of islets or beta cells from any animal species and eliminates the need for immuno-suppressive therapy. The tubing material most commonly used is a porous acrylic copolymer (Amicon® XM-50) with a tight skin on the luminal side which is permeable to glucose and insulin, but impermeable to antibodies and lymphocytes. The open structure of the tube wall and of the outer surface allows for cell implantation and growth in close proximity to the source of oxygen and nutrient materials in the lumen. There have been a number of reports demonstrating that beta cells isolated from neonatal or adult rat pancreas can be successfully cultured for several weeks on the outside surfaces of single tubes or bundles of parallel capillaries perfused with tissue culture medium. Release of insulin into the perfusate, measured over 24 hour intervals, remains relatively constant for several weeks, and responds appropriately to changes in glucose concentration of the perfusion medium.

An important aspect of pancreatic function is the rate of change of insulin secretion in response to changes in blood glucose level. Recent studies dealing with the short-term insulin secretory dynamics of the hybrid artificial pancreas have shown that after an increase in the glucose concentration of the culture medium from 100 to 300 mg per 100 ml, an increase in the insulin content of the effluent medium from the device can be detected within five minutes, and reaches a maximum within 30 to 45 minutes. This is quite acceptable, but nonetheless slower than the response of the natural organ. Improvements may be obtained by decreasing the diffusion distances between beta cells and the perfusion medium, or by coupling convective transport with diffusive transport in order to accelerate the humoral exchange of the glucose signal and the insulin release reaction.

Beta-Cell Procurement And Insulin Secretion

There are three schools of thought in relation to the procurement of endocrine cells capable of secreting insulin: the simplest approach consists of separating the endocrine tissue from the acinar cells and the gland stroma of the adult pancreas by mechanical and chemical means. The adult organ offers advantages of size and cell differentiation, but a limited potential for replication and growth. In the neonatal or even fetal organ the endocrine tissue represents a proportionately larger mass of the organ than at the adult stage, and cells have a better replication potential. However the harvesting of cells is much more laborious because of the minute size of the gland at or before birth. The third approach is to employ islet adenomas, which can grow quite rapidly, but have often lost significant aspects of endocrine function.

No one approach has yet proven overwhelmingly superior to the others. It is now possible to seed a hybrid artificial

pancreas so that the culture, once well established after about a week, will secrete between one and five units of insulin a day. Devices with twice that secretion potential are within reach. The total mass of endocrine tissue amounts to a few hundred milligrams, and the device itself is much smaller than a cardiac pacemaker. Thus, with improvements in cell procurement technology, and a better understanding of the factors which affected growth and function of the transplanted material, the feasibility of an implantable device producing enough insulin for the treatment of insulin-dependent diabetes is well within reach.

Correction of Experimental Diabetes In Animals

To demonstrate the therapeutic potential of the hybrid artificial pancreas, devices carrying cultures of rat pancreas beta cells have been implanted in adult rats with alloxan-induced diabetes. For this purpose an artery-to-vein shunt was installed and exteriorized through the skin, so that the device could be perfused by the blood stream without resorting to anesthesia.

The experience has shown that, in diabetic animals with a control blood glucose in the order of 500 mg per cent, an increase in circulating insulin concentration and a decline in plasma glucose can be detected in all cases within 30 minutes after insertion of the device in the artery-to-vein shunt. After two hours concentrations of plasma glucose have fallen by about 50 per cent. Within four hours the mean glucose concentration stabilizes in the normal range. Glucose tolerance tests carried out at that point are essentially normal, suggesting that the tissue culture device has the same feedback characteristics as provided by the natural pancreas. Plasma glucose remains within normal limits as long as the animal carries the device, in spite of activity and meals. It returns toward pathologically elevated values as soon as the tissue culture is removed.

Recently, similar results have been reported using small diabetic dogs as test animals. The experiment has been pursued for several days with adequate control of blood glycemia. (The insulin secretory ability needed to achieve that goal is estimated to be between 5 and 10 units per day.) The experiments are usually terminated because of thrombosis in the vascular shunt or in the blood path of the hybrid artifical pancreas, but not because of failure of the endocrine tissue transplant. Thus far there has been no evidence of immune reaction between the transplant and the host, but longer experiments will be needed to settle that point in a convincing manner.

Outlook

Animal experiments show that devices consisting of pancreatic islet cells cultured on the outside surfaces of synthetic semipermeable capillaries or tubes can maintain a relatively normal glucose homeostasis when implanted in continuity with the vascular system of diabetic rats or dogs. The challenge is now to develop this therapeutic model to make it applicable under clinical conditions. For this a number of problems must be resolved.

First there is a need to improve and standardize endocrine cell procurement, and to develop more physiological tissue culture conditions to allow simultaneously cell differentiation and cell replication. The demonstration that cryopreservation of pancreatic beta cells is indeed feasible may help resolve some of the logistics of device preparation and storage.

The next problem relates to the prevention of rejection. Since the walls of the semipermeable capillaries used for tissue culture should serve as an effective barrier to the immune rejection of xenografted cells, the problem may be resolved on the principle of immunoisolation. Another line of research may be to reduce the antigenicity of transplanted cells by maintaining them in culture for an appropriate period of time, or through pretreatment with radiation or drugs such as cyclophosphamide.

The major problem at the present time is that of thrombogenesis. The synthetic capillaries, or "hollow fibers" which have been used in the early models of hybrid artificial pancreas, cannot be perfused with blood without regional or systematic anticoagulation. Even then the phenomenon of platelet aggregation can lead to capillary obstruction and local necrosis of the cultured tissue after a few days of implantation in the vascular system. Current designs for the

hybrid artificial pancreas employ tubes with an inside diameter between one and five millimeters. The device becomes somewhat more bulky, but it may be possible to implant it internally as a true vascular graft without the need for anticoagulation.

Eventually the most critical issue may be that of functional survival of the implanted hybrid artificial organ. No one knows how long cultured endocrine cells can retain their secretory ability. In vitro some cultures have produced insulin for as long as a year, under nutritional conditions which are certainly far from physiologic. Implanted devices with blood as the culture medium should probably fare better, but there is no experimental evidence yet for this view. The devices may have to be designed in such a manner that they can be periodically reseeded with beta cells. Nonetheless, the hybrid artificial organ offers an exciting new approach to the control of endocrine disorders.

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Law: The Magic Mirror

A Humane Civilization Dedicated To The Rights Of Man Must Have A Government Of Laws, Not Men

By Joseph L. Lennon, O.P.

Today is the propitious time to rhapsodize about the law of the land. All men of good will cherish, honor, and love the law. Indeed, even men of bad will pay tribute to the power of the law. Before he was shot to death, the gangster turned-philosopher, Dennis "Danny" Raimondi, co-authored a book, *I Was a Victim of the FBI,* and dedicated it ". . . to the law. With the law," he said, "we have society, without it we have a jungle."

Danny was right. The beasts of the jungle obey only one law, the law of tooth and fang: kill or be killed; eat or be eaten. In the wild, might makes right; survival of the fittest is the only rule and the weak are victimized by the strong.

Animals are not troubled over questions of justice. They have no law; they follow instinct. For law is an ordinance of reason enacted for the common good, and animals lack that marvelous gift of reason which makes man, in the words of Shakespeare, "a little less than the angels."

Talk delivered on Law Day USA, 1977, at the Supreme Court, Providence, Rhode Island on May 2, 1977.

REV. JOSEPH L. LENNON, O.P., *Vice President for Community Affairs, Providence College, Providence, Rhode Island; and Member of the Board of Directors of Blue Shield of Rhode Island.*

The Basis of Civilization

Law is the basis of civilization and thus the gateway to culture. The arts and the sciences cannot advance to fruitful maturity without peace and order. Indeed, the degree to which the law is obeyed is a good index for judging the quality and character of a nation's civilization and culture. The very existence of the barbarian, the outlaw, and the criminal is an affront to the reign of law. To advance, or even to maintain civilization, the reign of law must be continually extended. Look at history. Every great civilization has been inextricably governed by a legal code. The better and more progressive the legal code, and the degree of respect the people have for it, then the greater the civilization. America itself was born aspiring to be the just society. The men who wrote its Constitution put justice even before domestic tranquility on their list of priorities for this More Perfect Union.

Citizens are so convinced of the magical power of law that whenever society is faced

with any problem – pollution, drugs, abuse of campaign funds, racial injustice, sex discrimination, exploitation of children, or a hundred other troubles which plague society the cry goes up "Pass a law." Perhaps that accounts for the popularity of the comic cartoon carried by many newspapers, "There Oughta Be a Law."

(After being almost driven out of my mind trying to park my car near this Courthouse, and while good form and judicial decorum make you my captive audience during this ceremony, I risk the displeasure of the Court to shout, "There Oughta Be a Law" against the parking mess around here.)

The laws of a nation crystallize the principles, standards, and ideals which motivate citizens. What a country values becomes clear by the laws it enacts. The great jurist, Oliver Wendell Holmes, speaks of "the law, wherein, as in a magic mirror, we see reflected not only our own lives, but the lives of all men that have been."

When people argue over what kind of laws they want, they are really arguing over what kind of people they want to be. We fought a Civil War over slavery — at one time tolerated, indeed, protected by the Constitution. Spartan law encouraged infanticide by allowing sickly infants to be exposed to the elements. On the score of racial purity, Nazi law herded Jews to the gas chamber. Communist law represses religion on the basis of Marxist ideology. Laws do, indeed, reflect the character of a people.

When Americans propose and debate laws concerning pollution, civil rights, nuclear energy, abortion, prostitution, pornography, or whatever, they are claiming a right to the control of the physical, the intellectual, and moral environment in which they live. They are talking about what they prize or value, about the principles, standards, and kind of behavior they consider crucial for living the "good life." What is at stake in this dialogue is the very heart of America — the whole tone of society, the very contours of future American culture.

Laws Reflect Cultural Values

Laws not only reflect old cultural values; they create new ones. Because they allocate values authoritatively, laws do more than limit deviant behavior; they teach what the culture considers right behavior. What the nation's law allows, therefore, is as important as what it prohibits in creating the norms of society. Justice Felix Frankfurter once remarked that: "Law is one of the great shaping forces of society."

Indeed, is it not true that the development of individual consciences also follows the movement of societal norms? Except for rare individuals who hear the beat of different drummers, or who insist on hearing no one at all, consciences are formed in the community and reflect its values. Most of our ideas, as Samuel Johnson wisely observed, are "not propagated by reason but caught by contagion." The kinds of norms expressed in law, therefore, become critically important even for the formation of individual consciences.

Generally, I am opposed to the use of punitive sanction to control certain kinds of behavior, not only on the grounds that it is seldom effective and risks endangering civil liberties, but because I believe that human conduct is better regulated by non-legal institutions: the home, the school, the church, the family, the peer group, the cultural pressure of society, public opinion, or even the innate decency of the individual. State-enforced morality is not morality at all, because, when the state forces its citizens to perform certain acts, it succeeds not in promoting virtue but in transforming citizens into pawns and puppets. For example, widespread social disapproval of drunkenness, illicit gambling, or the use of tobacco and marijuana is often a more powerful force than trying to control them by rigid laws.

Pope John in his encyclical "Peace on Earth" expresses the same opinion. He says: "In moving individuals to seek the common good through fulfillment of their duties, civil law must appeal primarily to the consciences of individual citizens. Where civil authority uses as its only, or its chief means, either threat or fear of punishment or promises of rewards, it cannot move men to promote the common good of all. Even if it do so move them, this would be altogether opposed to their dignity as men endowed with reason and free will."

At the same time, we must not forget that the "law is a pedagogue." It teaches and

proclaims a public moral standard and this is weakened when laws are changed in the direction of greater laxity. This is scarcely a conclusive argument against any and all change in law, but it indicates that a certain conservatism in regard to the law is also a part of civil wisdom. The law is, in a sense, the voice of society's conscience.

That is why I am against striking from the books those moral laws prohibiting homosexuality, the use of drugs such as heroin, prostitution, and pornography. The law deters more by virtue of the moral climate which it absorbs and preserves than by the punishment which it enacts and imposes. When you change, or remove from the books, laws dealing with public morality, it is all too often taken by many as a change in morality itself. Some people argue that, if a certain kind of behavior is not illegal, it is therefore not immoral. They confuse legality with morality.

The law's concern with interior virtue must necessarily be indirect; its goal is the creation of a climate where the individual personality and the virtues which are adornments of that personality can freely develop. The law can no more compel someone to be good, to be internally virtuous, than it can compel the rising or the setting of the sun. It can, indeed, compel me to respect the rights of others; it is quite incapable of regulating my interior attitude towards others. It can secure freedom; it cannot make me use it wisely or responsible. It can regulate marriage but cannot make partners love or forgive each other. It can force me to give my neighbor his due, but it cannot compel me to love him. As the English proverb puts it: "In a thousand pounds of law, there is not an ounce of love." What there is in law, however, is the power to create a wholesome environment in which love can grow and virtue flourish. Law does not justify morality; it takes morality for granted.

Law and Religious Heritage

And the morality which our laws take for granted, indeed, the very cultural pattern of our democratic society is rooted in the Hebrew-Christian religious heritage. Within that tradition we have certain great ethical ideals which we all share — ideals of liberty and social justice, ideals of the love of persons and the sacredness of personality that gave rise to the idea of personal rights and equality of opportunity. These values are shared by Protestants, Catholics, and Jews. We seldom acknowledge their origin. Indeed, we do not sufficiently appreciate them until we go and live in another country where there is no such heritage.

Even the agnostic or atheist in America, though he would be the last to admit it, is parasitic for his ethics upon the religious heritage which permeates our institutions. You will find a small band of the intelligentsia in America who think they have an autonomous ethic. Actually, they have cribbed it from the Judaeo-Christian tradition. Of course, a river cannot flow indefinitely after being cut off from its source. So also, the farther a country gets away from its religious roots, the less moral vitality will inspire and permeate its laws.

If America has an ideology, that ideology can be summed up in the words "freedom under God." The moral force in this slogan became a blazing passion, a revolutionary force which inspired a democracy of worth based on the authority of God, as set forth in the Declaration of Independence.

The very existence of a democracy like ours calls for a relatively high level of virtue in its citizens. The civil law aims at enforcing only that degree of good conduct that is necessary for the well being of society. It demands only the minimum. It does not define the full duty of any citizen in any situation. It prohibits socially intolerable conduct, but it does not prescribe what society regards as optimum or even desirable conduct.

Maximum Individual Freedom

Indeed, the major difference between a democratic and authoritarian society is that democracy leaves the maximum range of freedom for individual action. In an athoritarian society, on the other hand, the law undertakes to prescribe in detail what the government regards as desirable conduct, thus imposing real obligations with respect to a much wider area and leaving a much smaller degree of choice to the individual.

Robert M. Hutchins puts it well when he says, "In a democracy every person is, in a very real sense, a king, and it is the duty of kings to care about truth and justice and

virtue." Indeed, this idea of social responsibility has meaning only in a democratic society; and, correspondingly, a democratic society is viable only when the ideal of social responsibility animates most of the citizens. It is fundamentally wrong for any citizen to take the position that he need not be concerned for the social consequences of his actions because government will restrain him if his actions are improper or anti-social. Democracy simply won't work on this basis. Democratic processes require that citizens generally obey the law voluntarily and recognize an obligation of social responsibility most of the time regardless of the policeman on the corner.

In short, the survival of democratic society depends upon the exercise of self-control, not upon coercion. Our forefathers warned us that a nation like ours cannot be free unless its citizens freely and willingly set bounds upon their own actions.

Still, we would be living in a veritable paradise if everybody observed the law because it was right and reasonable to do so. That is why the law needs a big stick: obey or be clapped in the hoosegow or be socked with a fine. Without sanction, law is a farce. But the one and only motive to which sanction appeals is fear; and fear loses its deterrent power when cunning and craftiness make it easier to escape penalty. The most successful criminals, the white collar variety, are neither stupid nor ignorant. Just as they employ skillful techniques in committing crime, so they can with the help of modern inventions more easily elude detection and pursuit, or, if caught, can through legal expertise evade imprisonment.

Former Attorney-General Ramsey Clark tells us that courts and police actually have little impact on lawbreakers. The odds are 4 to 1 that a crime will not result in arrest, 50 to 1 it will not result in conviction, and 200 to 1 it will not result in a jail term.

No, we must look to religion, education, and the family if conformity to, and respect for, the law is to be secured. Conduct which is socially desirable is dependent upon good character, and good character is determined far more by the home, the church and the school than by the police, the law or the judge.

Alexis de Tocqueville noted many years ago that, "while the law permits Americans to do what they please, religion prevents them from conceiving, and forbids them to commit, what is rash and unjust," and he concluded that Americans hold religion "...to be indispensable to the maintenance of republican institutions."

Equality Under the Law

The phrase carved in stone on the Supreme Court building in Washington, D.C., reads: Equal Justice Under Law. That means the law is no respector of persons. But is this so? As far back as the third century B.C., Plautus observed: "The law for rich and poor is not the same." And centuries later Oliver Goldsmith said: "Laws grind the poor, and rich men rule the law." Does civil justice exist only for the 20 per cent who can afford lawyers? What about our vaunted concern for the helpless, the wretched, the feebleminded, the ex-convict, the handicapped, the "teeming masses" as Carl Sandburg calls them?

Few will deny that the rich have more advantages before the law than the poor. Take our tax laws. President Jimmie Carter recently said that "the current tax structure is a national disgrace." The working man says "Amen" to this stricture. Indeed, every wage earner, threatened by inflation and locked in an economic bind, is outraged when his daily newspaper informs him that a big conglomerate or a millionaire pays little or no taxes. He wonders if the system of justice has been contrived by the upper crust to take care of its own.

St. Paul (1 Timothy I,8) reminds us: "The law is good, if a man use it lawfully." The trouble is that there are too many in our society who do not use the law lawfully but who exploit it for their own advantage. Much of the most dangerous corruption of our times is entirely legal. The law itself may be used to reap enormous rewards at public expense, as through loopholes, subsidies, write-offs, or manipulation of the tax structure. A giant corporation, exploiting a weakness in the law, can carry away more booty than all the street bandits, prostitutes, pushers, and kindred bad types put together. The little favors and graft of minor officials are trivial in comparison to the special-interest legislation of such large dimensions.

As the old English rhyme has it:

The law locks up both man and woman
Who steels the goose from off the common
Yet turns the greater felon loose
Who steals the common from the goose.

Still nobody can fault us for not trying to give the poor a fair shake. The Legal Aid Society has been with us a long time, and the poor have been aided more recently by the Rhode Island Legal Services. I am privileged to serve on its Board of Directors. I suppose if every lawyer took five additional cases for indigent people per year, the need for Legal Services would be eliminated. Since this professional benevolence is lacking, Legal Services takes up the slack; it provides legal counsel for the have-nots in our midst.

The procedure of the courts works unfairly on anyone who is unable either effectively to assert legal rights on his own behalf or to employ a lawyer for that purpose. The poor are in this category. Legal Services tries to remedy this unfairness. In doing so, it reduces (it is hoped) that sense of despair and feeling of inadequacy which characterize the lives of the poor. In short, society says to the poor through Legal Services: "You may have nothing, but you count for something in this land." It secures them in the knowledge that they, like every other citizen, will get an even break before the law.

Legalese

There is more than a grain of truth in the remark of George Bernard Shaw that: "Every profession is a conspiracy against the laity." The unlettered poor, mystified by the gobbledygook known as legalese, feel especially lost in trying to thread their way through the inflated, involved and obscure verbiage of the law. Any normal person, unless he is an inveterate crossword puzzle addict, would be somewhat putoff when he hears such statements as: "The plaintiff has a right to the *fructus naturales* of the land and any *emblements.*" And who are those bizarre sounding fellows lawyers speak of: the promis*or* and promis*ee,* less*or* and less*ee,* mortgag*or* and mortgag*ee?* When I first heard the word testatrix, I thought it referred to what at one time was quaintly called a "private part."

Here's a witty anecdote I ran across in the *Rotarian Magazine:* A lawyer appearing in a case asked the witness: "Now, Mr. James, did you or did you not, on the date in question or at any other time, previously or subsequently, say or even intimate to the defendant or anyone else, whether friend or acquaintance or in fact a stranger, that the statement imputed to you, whether just or unjust, and denied by the plaintiff, was a matter of no consequence or otherwise? Answer! Did you or did you not?"

The witness pondered for a little while and then said: "Did I or did I not what?"

Lord Atkins, describing the incomprehensibility of legal jargon, states: "The layman's impression of law is too often that it is the product of a black art, administered as a mystery, which none but the initiates need hope to understand."

Sovereignty of the Law

But less you accuse me of judging the legal profession unfairly, I confess that we educators take refuge in a pedagoguese equally baffling to the layman and specifically designed to obfuscate the clearest issues.

Richard Brinsley Sheridan tells us that:

A bumper of good liquor
Will end a contest quicker
Than justice, judge, or vicar

Would that this were so. But many contests end up in the courts, and so we need judges who are well versed "in those nice sharp quillets of the law." Indeed, the gifts which your vocation requires of you and the works you do as makers and judgers of the law are so close to those of God Himself as to give them some shadow, however faint, of the divine Majesty itself. You are the wielders, in varying degrees, of sovereignty; you interpret and apply, you bind under and loose from, the positive civil law, which is the codification in our society, as God has given us to achieve it, of that natural law which the Creator implanted in the innermost hearts of men.

You attain your offices by duly prescribed appointment; you are answerable to those who designate you and the people they represent. But your sovereignty is still of

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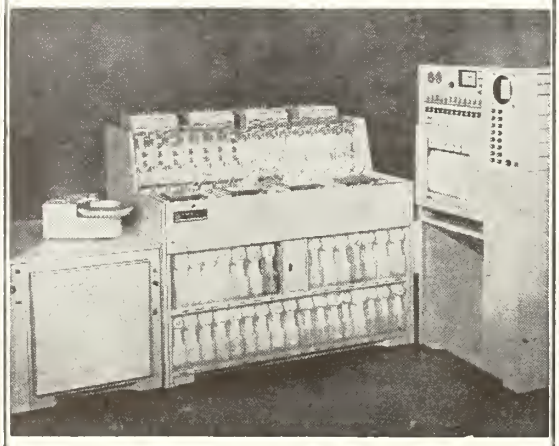

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God; there is no true authority which is not divine, no trust which is not sacred, no stewardship which is not answerable ultimately to God.

Our forefathers, the authors of our basic law, understood that a truly humane civilization dedicated to respect for the rights of man must have a government of laws, not of men — of objective, constitutional statutes, not subjective, arbitrary impulses, however high-minded, however immediately beneficial. It is this government of laws that we honor at every Law Day Celebration.

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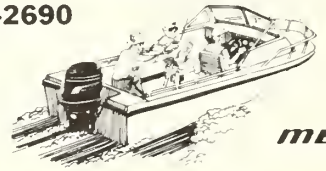

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Editorials

Too Many Or Too Few

The AMA has long been maligned for restricting the supply of doctors, which of course it has never had the power to do. It was blamed for this because of attitudes expressed in the 1930s, when the Great Depression hit the profession a hard blow. In those unhappy years doctors often traded their services for farm produce or due bills or drove the proverbial taxis in the Bronx.

Since the 1960s organized medicine was strongly on the side of increasing the supply of physicians in the face of the popularly accepted "doctor shortage." Since then the ratio of doctors to population has increased dramatically resulting from the establishment of a score of new medical schools, upgrading of several two-year schools to four years, and the enlargement of classes. In 1966 there were 156 doctors for every 100,000 people in the United States. By 1976 the ratio had grown to 194 per 100,000, a 24 per cent increase in 10 years. By 1985 the rate may reach 222 doctors for every 100,000 of population.

In a recent article in the *New York Times* (May 5, 1978) the writer reports that some health system analysts are now raising the question, not whether the country needs more doctors, but whether it can afford any more. Some economists have estimated that each additional doctor entering practice creates from $150,000 to $350,000 health care spending each year.

Uwe E. Reinhardt of Princeton University contends that the most effective way to reduce health care spending would be to limit the number of doctors. As a result of the way medicine is organized, an increase in the number of physicians does not necessarily result in greater availability to the underserved areas or classes. It is further pointed out that the classical law of supply and demand has not operated to lower fees as the supply of doctors has risen. Professor Reinhardt draws this conclusion from his observations: "Don't put in so many hospitals and so many schools unless you are going to control fees."

The *Times* article poses this proposition: Unlike the situation in most "markets," consumers have little control over the form or size of the demand for services. An individual may decide when to see a doctor, but then turns over to him virtually all further decisions. The physician then determines the tests, drugs, need for hospitalization, which hospital, surgical procedures, and other details of management, and usually does so without weighing costs. Since enlarging the doctor supply means in general more specialists, patients will be referred to specialists more frequently. Thus, an increase in the supply of physicians tends to increase the apparent demand. Compounding this is the rising expectation of what constitutes a condition requiring medical attention. So the theory goes.

Professor Reinhardt suggests that our money would buy more health if we "put it into housing or nutrition or hygiene education instead of more doctors and more hospitals."

We certainly, as physicians, are in complete agreement as to the need for improving housing, nutrition, and hygiene as a means of improving the general health. Elimination of the ravages of alcohol and tobacco alone would have an impact amounting to billions of dollars.

Whatever the future may hold, however, we are bemused at this recent about-face among the medical economics intellectuals. First the profession was berated for "limiting the number of doctors"; now we are told that there are too many. We have come full circle. It therefore follows that if you can't limit their numbers, limit their fees.

Yet somehow a haunting feeling persists that the Professor raises a legitimate question when he asks whether increased health-care spending really buys improvements in health.

The Myofibroblast And Wound Contraction

Based on the classical work of Alexis Carrel in the days before World War I it has long been widely accepted that the contractile force of wounds resides in the granulation tissue that fills the defect. It had been the traditional view that shortening of the collagen was responsible. This hypothesis was challenged, however, by the demonstration that wounds in scorbutic animals could close independently of collagen formation. Nor was there any evidence that some other extracellular substance had contractile capability. Attention was therefore directed to cellular components of the granulation tissue, and more specifically to the fibroblasts. Cultured fibroblasts were demonstrated under certain experimental conditions to have the capacity to contract, but direct proof that fibroblast contract in vivo had not been forthcoming. The advent of the electron microscope ultimately provided the key. It was, however, demonstrated by the ultramicroscopic studies that fibroblasts in healing linear wounds contained no elements characteristic of contractile cells.

The important studies of Gabbiani et al of Geneva on the ultrastructure of fibroblasts in open wounds provided the answer. Such cells do in fact develop contractile characteristics. They further demonstrated that isolated strips of granulation tissue respond in vitro to pharmacologic agents in a manner similar to that of smooth muscle. The similarity was further confirmed by chemical and immunologic studies.

The report, while highly technical, is graphically illustrated by electronmicrographs showing myofibroblasts densely packed with fibrils. From these studies it is concluded that contracting granulation tissue contains fibroblasts that develop characteristics typical of smooth muscle: 1. They contain an extensive cytoplasmic system. 2. Their cytoplasm responds to immunofluorescent labelling with anti-smooth muscle serum. 3. Their nuclei show folds and indentations characteristic of cellular contraction. 4. Strips of granulation tissue in vitro as already noted respond to pharmacological agents in the same manner as strips of smooth muscle. There is increasing evidence that fibroblasts and smooth muscle cells are more closely related than had hitherto been postulated in classical histological doctrine, and that either cell may be capable of modulating toward an intermediate type.

Subsequent reports tend to confirm these basic studies. Baur et al[2] of the Shriners' Burn Institute of the University of Texas at Galveston conclude that contractile fibroblasts are common cellular components of immature human hypertrophic scars. The elevation of the scar tissue is in all probability attributable to the contraction of these cells. The appearance of such cells within granulation tissue suggests that the tissue is predisposed to hypertrophy at an early phase of repair. Rudolph et al[3] have observed that myofibroblasts in granulating wounds in pigs have an identifiable life cycle that parallels the eight week span of contraction of the wounds.

Myofibroblasts are seen early in the burn wound, usually by the third day, but constitute only a small proportion of the cell population. At the height of wound contraction and up to 120 days postburn, they may constitute 50 to 75 per cent of the fibroblasts, and at the height of scar contraction may account for up to 100 per cent of the total fibroblast population.[4]

The predictions of Gabbiani in 1971 now appear to have been validated: "that under certain conditions, fibroblasts can differentiate into a cell structurally and functionally similar to smooth muscle, and that this cell plays an important role in contraction of connective tissue, a process that is beneficial in wound closure but potentially harmful in other situations."

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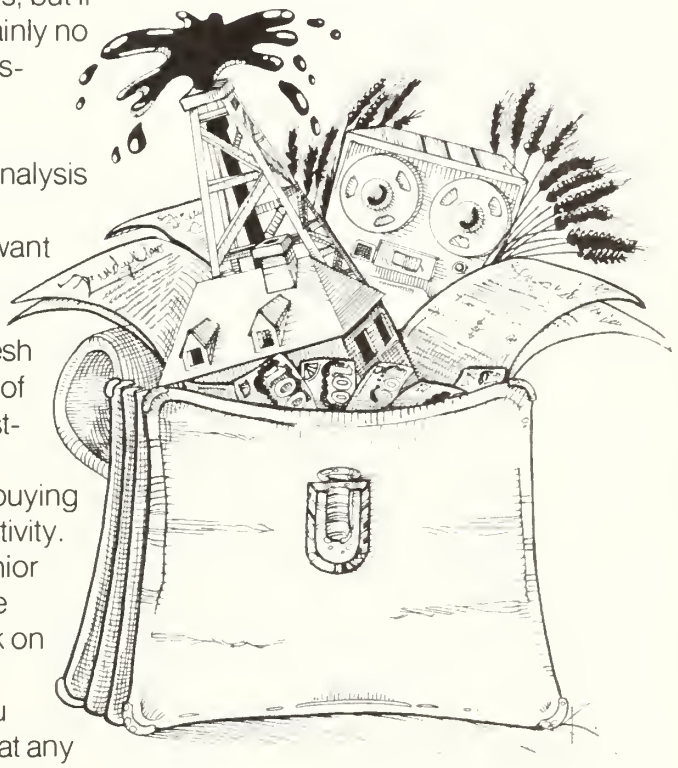

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Editor's Mailbox

Vulnerability of Physicians

To the Editor:

The poignant editorial by Doctor Peter Reilly in a recent issue of the *Rhode Island Medical Journal* (61:171, April 1978) pointed out in a way too tragic to comprehend that physicians are as human as their patients and have similar feelings. In their professional capacity physicians are expected to disassociate themselves from and to an extent ignore their own feelings in order to make objective clinical judgements. Feelings, however, may not be ignored. They initiate and perpetuate emotional and physical states which produce the joy and satisfaction which make life worthwhile. They also produce the sadness and dissatisfaction which make life seem not worthwhile. Physicians have several impediments to expressing and dealing with feelings. By virtue of their authority position and the responsibility of the decisions made almost on a daily basis, normal feelings of doubt, inadequacy, anxiety, and anger may be self-interpreted as a sign of weakness.

The expression of feelings may be self-interpreted by physicians as demonstrating a lack of proficiency. Also, certain problems may afflict this group more than others. The use and abuse of medications, particularly psychoactive and narcotic medications, fall into this category. With easy access to medications physicians and members of physicians' families may rely on medications to allay the stresses of life and their feelings. Certain illnesses such as depression and alcoholism constitute another category of disease in which the physician may be peculiarly excluded from competent medical help. Organic illnesses such as

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myocardial infarction and even malignancy are respectable, whereas behavioral abnormalities such as depression and alcoholism are interpreted as signs of weakness.

Rhode Island is a small state. The physicians are a reasonably cohesive group in which professional and social relationships abound. There is only one major private mental health facility in the state. How can a physician who is depressed, who is drug-dependent, who is alcoholic, or who has such severe anxiety as to interfere with his ability to practice or enjoy life consult a colleague with whom he may practice and socialize? Certainly out-patient psychotherapy on an individual basis is available, but many of the serious problems mentioned above require team effort and often hospitalization. Where can the troubled physician turn to ask for help easily available to the poorest welfare patient or the richest private patient?

In Rhode Island it is a difficult problem. Perhaps an organized program in cooperation with the Massachusetts Medical Society or with other agencies in Boston could provide consultation with appropriate specialists. An initial consultation with a specialist in an appropriate field and with whom there is no possibility of professional or social contact might open the door for help. Certainly, these referrals are available now, but only to those who know where to go and whom to ask. A more formal system might insure that the troubled physician in Rhode Island could obtain professional help without fear, be it real or imagined, of the loss of respect of his colleagues.

Doctor Reilly's tragedy is the tip of an iceberg. We should undertake all reasonable steps to prevent the loss of life, happiness, and productivity to which physicians may be subject as a result of their reluctance to seek help through the usual channels of entry to the medical care system

Herbert Rakatansky, MD

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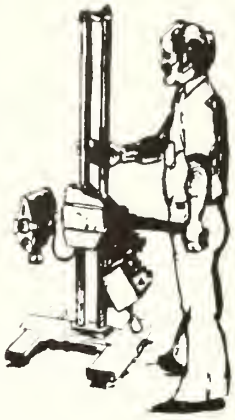

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Rhode Island Medical Journal

July, 1978

Vol. 61, No. 7

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President's Address

See Page 265

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Books Received For Review

THE COMPULSIVE OVEREATER by George F. Christians. New York, Doubleday, 1978. $5.95.

CURRENT PEDIATRIC DIAGNOSIS AND TREATMENT by C. Henry Kempe, Henry K. Silver, and Donough O'Brien. Los Altos, California, Lange, 1978. $17.00.

CONTAINING COSTS IN THIRD PARTY DRUG PROGRAMS: SELECTED BIBLIOGRAPHY AND ABSTRACTS by David A. Knapp and Francis B. Palumbo. Hamilton, Illinois, Drug Intelligence Publications, Inc., 1978. $12.00.

THE ECONOMICS OF MEDICAL MALPRACTICE edited by Simon Rottenberg. Washington, D.C. American Enterprise Institute for Public Policy Research, 1978. $5.75.

MEALTIME MANUAL FOR PEOPLE WITH DISABILITIES AND THE AGING compiled by Judith Lannefeld Klinger. Camden, New Jersey, Campbell Soup Company, 1978.

HEART ATTACK! A QUESTION AND ANSWER BOOK by Oscar Roth. Philadelphia, Lippincott, 1978. $8.95.

REVIEW OF MEDICAL MICROBIOLOGY by Ernest Jawetz, Joseph L. Melnick, and Edward A. Adelberg. Los Altos, California, Lange, 1978. $12.00.

CONTROLLING THE USE OF THERAPEUTIC DRUGS: AN INTERNATIONAL COMPARISON edited by William M. Wardell. Washington, D.C., American Enterprise Institute for Public Policy Research, 1978. $4.75,

THE MALPRACTITIONERS by John Guinter. New York, Anchor, 1978. $10.00.

Rhode Island Medical Journal

JULY, 1978 Volume 61, No. 7

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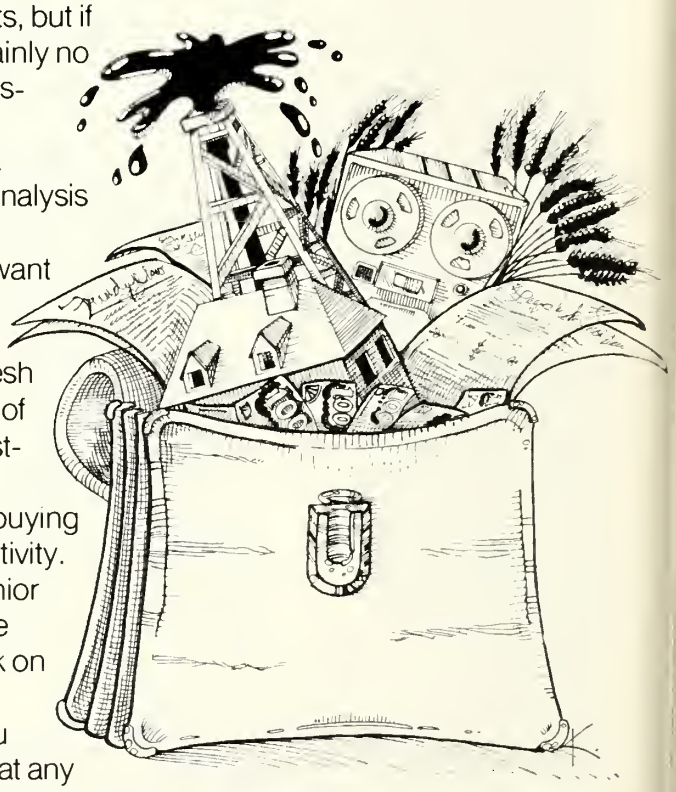

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President's Address

By Frank W. Sullivan, MD

It is a pleasure to report to you that I leave the Society to Doctor Joseph E. Caruolo in reasonably good shape. Our membership in both the Rhode Island Medical Society and the American Medical Association is up modestly and we are fiscally sound for the present.

What began quietly, developed into a busier than expected year with Connecticut luring away our Executive Director. Fortunately, he had an able and well-trained assistant, James R. (Jim) Clarkin, who has served us extremely well, as has his new and multi-talented assistant, James J. (Jim) McGovern.

While problem doctors are few in number, our Society's power in the past to discipline had been limited to censure or expulsion from membership. Revised mechanisms in the Peer Review and Mediation Committees now allow both to refer cases to the State Board of Medical Review, if physicians are unresponsive to internal review by their colleagues. A systematized but simplified mechanism to respond to the disabled physician has been incorporated into the peer review system and will, we hope, be utilized to help the ill physician through appropriate support and rehabilitation.

The function and fate of the Medical Society Library, an issue receiving intermittent attention over the past few years, is under study so that specific alternatives and recommendations can be made to the Council, the House, and perhaps ultimately to the membership for decision.

Ladd School

In December, following a number of *Providence Journal* articles, a series of administrative, medical, and political problems developed at the Ladd School, a state facility for the mentally retarded. One of the multiple pressures and demands of the Governor's office was to have physical examinations completed on all Ladd residents. At the request of the Governor, the Honorable J. Joseph Garrahy, and under the direction of Doctor Johannes Virks, Medical Director of the Center General Hospital, the Medical Society assisted in recruiting volunteer physicians, who gave their time towards

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Address delivered at the 167th Annual Scientific Assembly of the Rhode Island Medical Society on May 17, 1978

FRANK W. SULLIVAN, MD, *Practicing Psychiatrist; President, Rhode Island Medical Society, 1977-1978*

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this worthy community project. With the help of the medical and nursing staff of the Ladd School, 119 physicians volunteered 802 hours to update physical examinations on the 741 residents. The Governor was laudatory in his comments to the Society and the individual members who participated.

Hospital Costs

In response to administrative and congressional pressures toward a hospital expenditure "cap" the American Medical Association, the American Hospital Association, and the Federation of American Hospitals suggested to their state components that they initiate local volunteer hospital cost containment mechanisms. A Rhode Island Medical Society-Hospital Association of Rhode Island Committee has been established and has met and drawn up responses to the 15 points of the parent plan. In a state where a prospective reimbursement mechanism has been in effect and where the hospital cost inflation factor is significantly less than the national average, many of the charges have been sufficiently addressed. Joint effort will be focused more in the direction of utilization review of ancillary services, management engineering study sharing, public awareness of costs, and the relationship of demand to cost.

As a pilot project to serve the needs of the resident physician leaving training and to introduce him to the Society, a day-long program in medical socioeconomics will be sponsored in the fall of 1978. A number of issues will be confronted including office leasing, equipment purchases, office help, professional liability, billing procedures, patient scheduling, office economics, and others.

I would also make special note of the changes in format suggested by the program committee to improve the participation and usefulness of our annual meeting.

Society Activities

Time doesn't permit listing the innumerable issues dealt with by our many committees and executive staff running the gamut of legal issues, ethical issues, hospital services, malpractice, intermediary problems, medical economics, medical education, physician complaints, intermediary complaints, patient complaints, overbilling, underbilling, overtreatment, undertreatment, school children problems, geriatric problems, too many doctors, too few doctors, and on and on.

One of the major tasks of the Society administration and staff is addressing the many legislative issues which to varying degrees impinge upon the practice of medicine. A proposal for broadening our legislative capability will likely be implemented in the coming year. By adding an Assistant Executive Director for External Affairs, that individual could markedly expand our effectiveness in legislative and public relations matters.

State Legislation

Each year the Society spends major additional increments of time studying legislation; gathering information; educating the legislative members,Society members, and the public; guiding our legislative counsel; and preparing and delivering testimony. This year 48 bills related in varying degrees to the medical practice: 26 of these required close attention. Testimony was given on most of these bills by physician members expert in various aspects or by our staff. While still relative novices at the political game, I can assure you that we have gained each year in knowledge and effectiveness with the invaluable help of our legislative counsel.

Federal Legislation

Some of the more prominent pieces of legislation deserve note. The Health Planning Legislation of 1974 (PL93-641) requires each state to establish compliant certificate of need legislation by 1980. Legislation to that effect was passed by both houses of our legislature last year but was vetoed by the Governor, primarily because of a problematic budgetary clause. Intent on passing a Certificate of Need Bill (CON) in the 1978 session, the Governor strongly advised the Blue Cross-Blue Shield Plans, the Hospital Association of Rhode island, the State Department of Health, and the Rhode Island Medical Society to discuss and make known to his office their concerns and requirements for this legislation. While the Hospital Association of Rhode Island (HARI) was kept informed, it stayed visibly to the sidelines as negotiated agreement was

reached between the other bodies. While medical equipment purchases by physicians were not specifically subjected to CON under federal regulations, it was agreed that it was in the public interest that large single item purchases, regardless of ownership, would be subject to CON. Agreement on this issue allowed clarification and tightening of the exclusion language for all other aspects of the practice of the private physician. When HARI mounted a twilight hour amendment in the House committee to expand CON to include building alteration and erection, the Society was able to prevail on the Governor to bring pressures to bear on returning the bill to the original administrative version. If enacted in the amended form, serious encroachment would have occurred into the private practice of medicine. Following some nervous and expectant waiting, the bill was revised and passed as intended.

Laetrile, the krebiozen of the 1970s, was a issue plaguing most states in recent times. Anticipating that the magic elixir of laetrile was due to arrive in our state, the Society joined forces with the Rhode Island Cancer Society and the State Department of Health in the Fall of 1977 and circulated to all members of the General Assembly a position statement as to the ineffectiveness of laetrile and comprehensive documentation of that fact. Testimony was carefully prepared and presented at both House and Senate Committee hearings. What resulted was a bill reflecting the General Assembly's refusal to deal with the question of scientific effectiveness and concentration on protection of substance purity and cost control. Essentially the bill would result in expenditure of taxpayers' money for quality and cost control of a substance repeatedly demonstrated to be ineffective. Fortunately, the Governor foresaw the multiple problems and vetoed the bill.

Third Parties

A seemingly innocuous bill raised its head again this year. On the principle that only 6 per cent of physicians in this state are nonparticipants in an insurance plan covering better than 80 per cent of this state's population, that small number was to be forced to forfeit their fees if not discussed and agreed to in writing prior to the services being rendered. This bill was modified in committee but without essentially altering the principles of the legislation. Despite Blue Cross-Blue Shield claims to the contrary, I am unconvinced that they worked to defeat this bill. This Society did and effectively so. Watch closely for this legislation in the future and do not view it lightly; when legislative penalties are imposed on those few physicians in this state who still deal directly with their patients rather than through an intermediary, you'll find yourself well into a socialized system of medicine.

A well-meaning bill gone sour was exemplified by last year's "Pronouncement of Death Bill" requiring a physician's presence prior to the removal of a deceased's remains. After numerous meetings with all affected parties, the bill's sponsor was convinced of the necessity for repeal. From there, a seemingly simple task to repeal followed a convoluted trail of tabling, reintroductions, misinterpreted testimony, missed signals, and last minute explanations. As is often the case, what is most obvious is not obvious at all when we move the discussion across the street. Needless to say, the bill was repealed, and the usual and customary method was restored.

The confidentiality bill, originally introduced by the Rhode Island Medical Society but reported this year out of a legislative commission, passed after several amendments but essentially intact.

Most other legislation supported by the Society passed; those having negative effects were favorably modified or defeated with the exception of acupuncture and the licensure fee increase.

HEW Policies

Moving beyond state boundaries, National Health Insurance in many of its original forms has bogged down, primarily because of fiscal realities and lack of public clamor. With the Federal Government owing more than one-third of the country's annual expenditures for health care, Secretary of Health, Education, and Welfare Joseph A. Califano Jr. and the administration are looking with deliberate speed and pointed comments at medical cost containment and control. Fortunately, Congress is more cautious and conservative but not sufficiently to

dampen Secretary Califano's spirits. Last year in "compliance" with the "Sunshine Act" he managed to publish a national list of physicians who had, according to government records, earned greater than $100,000 from Medicare in 1976. After months of challenges and findings of a cumulative error rate of 65 per cent, Califano grudgingly apologized. This year's revised program for the "Second Annual Medicare Disclosure Program" has Medicare intermediaries confirming through each physician the amount paid to some 274,000 physicians before a public disclosure which has been repeatedly delayed. This latest self-serving project of Califano's in his efforts towards cost containment has cost the public one million dollars.

In an attempt to be "helpful" to the states in their implementing the Health Planning Act (PL93-641), the Secretary of HEW issued guidelines or standards which local bodies will find difficult to interpret with much latitude. Some examples of the eleven standards are: four hospital beds per one thousand population; occupancy rates of at least 75 per cent and 80 per cent for obstetrical and general hospitals, respectively; occupancy rates of 65-75 per cent for pediatric units; 2500 procedures per year for each computed tomographic scanner, and so on. No one can doubt that the Secretary is a serious, effective, and formidable bureaucrat.

Cost Containment

With threats and deliberations over hospital cap legislation, the AMA, AHA, and Federation of American Hospitals responded with all deliberate foolishness. They have urged each state to establish voluntary hospital cost containment inflation reduction programs which will likely fail on a national level, not because of lack of effort or sincerity, but because of the impossibility of the task with the resources which are available. That failure may seal the Government's argument to intervene with hospital cap regulations.

What was probably one of the most enlightened and progressive moves on the part of the AMA was the report of the cost containment commission in December 1977. While some of the 48 points espoused in this document are in opposition to traditional medical positions, the net effect is probably the most reasonable compromise to date of consumer, industry, insurance, and profession. What is sad is that at the coming June AMA House of Delegates the Assembly will likely debate and either amend it significantly or "accept and file" rather than support, thus rendering the effort ineffective. If so, what could have been a workable document will be lost and medicine will move further to the back of the bus.

The Future

Some speculation on what might be ahead. The Federal Government will continue to lambaste the medical profession as a diversion from its own failures and as a well-calculated campaign to justify and gain support for increased cost control measures. Physicians have not failed in their charge to provide quality services. The government has failed and has been shortsighted, as usual, in its programs and promises to the people to provide everything to everybody. Resources are limited, and medical care will be parcelled out by the Federal Government along with its multitudinous programs. Quality and quantity of services will be sacrificed regardless of what the consumer is promised. He who controls the funds controls accessability and therefore quality and quantity. While the Government with a cumulative debt of 7.5 trillion dollars does not run things cheaply, it is effective at regulating and restricting.

National Health Insurance

While some form of national health insurance is probably inevitable in the near future, it will likely be phased in gradually and integrated with the private insurance industry. Do not delude yourself, however, that national health insurance will be any more palatable under private insurers than under the Government. The private insurance industry will move increasingly towards the side of Government under the guise of serving the public, while in reality attempting to stay in business and retain a significant piece of the action. Physicians will be increasingly relegated to sham advisory positions even within the professional service corporations they founded. That the Federal Trade Commission (FTC) is concerned even at the

present that doctors might unduly influence Blue Shield corporations and boards is laughable: it is quite the opposite.

With the economics of NHI causing serious doubts and with prepaid health plans proving expensive and lacking significant public clamor, the major government thrust will be toward cost control and increasing regulation, hospital caps, increased CON processes, and decertification, extending increasingly towards regulatory mechanisms for physician practices and fee control.

Conclusions

With all of these prospects, what might the physician consider at this time? I would suggest the following:

Strengthen your alliances with consumer and legislative groups. Support openly those issues which are to the benefit of the public health, but be less apologetic and equally open in protecting your rights as a professional and individual (ie, those attitudes referred to with disdain as "self-interest"). Support and actively engage in the organizations and activities relating to physicians and medicine and sharpen your skills at negotiating for your patients and for your profession. Consider seriously disengaging your alliance with the insurance industry of whatever name or history. Despite the FTC's concern, we are relatively impotent and hamstringed with the Blue Shield organization of our creation while still lending it an air of "physician organization." Blue Cross-Blue Shield of this state does its job well, as is attested to by 85 per cent subscriber rate in the population and a 94 per cent participating physician rate (for those who don't realize it, there are more doctors belonging to Blue Shield than to the Rhode Island Medical Society). After working directly and indirectly with Blue Shield over the past year, I am very impressed with how powerful this 250 million dollar industry is and how little effect we physicians have on its operation while its effect on our individual and collective affairs is significant and growing. This company is a shrewd negotiator in both financial and legislative matters. With 85 per cent of subcribers under Plan 100 and 94 per cent of physicians participating in the plan, we may constitute one of the nation's largest HMO's. Few physicians know when they signed their participating agreement or what it stated. Doctors have gotten lazy and use the Blue Shield as a collection agency, while having a decreasing influence in the determination of their own fees.

It may be time seriously to consider disengaging the Medical Society from Blue Shield and returning to the physician and patient advocacy roles of the past, establishing a healthy and more realistic adversary stance with all insurance companies.

Quality of Care

While we must be aware of costs, our alliance with patients should constantly strive toward the provision of excellent, not merely adequate services. Establish reasonable fees for your services, and always be willing to accept less if the circumstances of the patient so dictate. The process of removing the patient from the payment mechanism will not serve either the physician or the patient in the long run and is a significant factor in medical cost inflation.

Medicine serves many as a too willing and too available scapegoat. We should be proud of what we provide for our patients, that we are uncompromising in applying our trade, and that, while we are concerned, we are not surprised that the quality of medicine in this country carries an expensive price tag.

Major health care financing responsiblities have shifted to the government and to the insurance industry, and both are looking toward regulation of services from a budgetary standpoint. Physicians and the public should view this progression with caution and be aware that regulated medicine may well become restricted medicine. Bargain medicine may end up being no bargain at all.

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Management Of Atypical Pneumonias In View Of The New Entity "Legionnaire's Disease"

Only With Serological Testing On A Large Scale Will The Importance Of Legionnaire's Disease Pneumonias Be Established

By Fredy P. Roland, MD

The discovery of an infectious disease which is neither new nor localized, associated with cases of pneumonia, which for want of a better name has been called "Legionnaire's Disease"[4] (LD) warrants a new approach in the laboratory evaluation and treatment of pneumonias.

Pneumonias are classified as bacterial, LD, infection with *Mycoplasma pneumoniae*, and viral. Only with serological testing on a large scale will the importance of LD pneumonias be established.[1]

LD pneumonias and febrile illnesses without pneumonia[3] (Pontiac fever) are associated with gram negative bacterium which is difficult to isolate and identify, and which elicits an immunologic response. the etiologic proof of these diseases is demonstrated by indirect fluorescent antibody testing that takes at least several weeks for confirmation. These bacterial diseases are amenable to antibiotic therapy. Erythromycin seems to be the antibiotic of choice,[1] but the physician cannot wait for a serological diagnosis to treat the patient.

Cases of pneumonia and febrile illness due to LD are not always associated with epidemics. Sporadic cases have been reported in several states and abroad.[4 5] The mode of transmission has not yet been discovered. Air-borne transmission as well as transmission via animal or insect vectors are being considered.

The presence of a febrile illness with or without pneumonia, of unknown mode of transmission, which appears in epidemic form or as sporadic cases, urban or rural, associated with a bacterium extremely difficult to isolate, and which has to be treated before serological confirmation, necessitates a somewhat different approach in its management.

This presentation deals with the practical management of atypical pneumonias and can be extended to febrile illnesses without pneumonia.

Presented at the 45th John F. Kenney Clinic Day at The Memorial Hospital, Pawtucket, Rhode Island on January 25, 1978.

FREDY P. ROLAND, MD, *Assiatant Professor of Medicine, Program in Medicine, Brown University, Providence, Rhode Island; Director, Division of Infectious Diseases, The Memorial Hospital, Pawtucket, Rhode Island*

Management of Atypical Pneumonia

The management of atypical pneumonia (defined as pneumonia by clinical and x-ray findings, where a non-bacterial etiology is clearly evident) is centered on 1) attention given to situations, symptoms, and laboratory findings present in a large percentage of LD cases; 2) use of erythromycin early in the disease; and 3) the taking of the necessary measures to insure a later serological diagnosis. Table I summarizes the different steps of the management. Only the findings important for LD[1] are further discussed.

Social History. Because LD may be associated with bacteria present in animals and in the soil, activities dealing with excavations and handling of animals and birds should be recorded. Travel in places where LD has been reported and visits to hospitals should be investigated.[5]

Past History. Pulmonary and cardiovascular diseases should be noted. In Philadelphia 61 per cent of persons with LD had preexisting illnesses, mostly pulmonary and cardiovascular. Immunosuppression and cancer have been associated with LD resulting in a high case-fatality ratio.[7]

Clinical Symptoms and Signs. Fever should be monitored regularly. There are often minimal pulmonary findings associated sometimes with pleuritic pain. Diarrhea and obtundation have been reported.

Chest X-rays. The chest x-ray findings are abnormal in 90 per cent of the cases. They range from patchy interstitial infiltrate to consolidation, which is unilateral in 50 per cent of the cases.

Laboratory. White blood cell counts greater than 10,000 have been found in 59 per cent of the cases with a shift to the left in 50 per cent of the cases. Erythrocyte sedimentation rate was greater than 80 in 33 per cent of the cases. Cold agglutinins should be determined. They are positive early in *Mycoplasma pneumoniae* pulmonary infections, for which erythromycin is probably the antibiotic of choice. Immunoglobulin levels may reveal an unknown hypogammaglobulinemia. This may have two consequences: rendering the patient more prone to LD and preventing a rise in the serological titers to LD. Serum has to be frozen for further LD serology. Serum in the acute phase is important to measure the rise in antibody titer.

Bacteriology. Study of the sputum or transtracheal aspirate is necessary. Cultures should be obtained on sputum specimens even if there are no polymorphonuclear cells present. Expectorates in LD are seldom purulent.

If the culture reveals a possible bacterial pathogen responsible for the pneumonia, the appropriate antibiotic should be given. If no pathogens are isolated, erythromycin administration should be started. When in doubt as to the etiology of the pneumonia, erythromycin should be given together with another antibiotic.

Follow-up. The follow-up as described represents a "minimum" of the necessary tests and x-ray studies to be performed.

At three days. Complete clinical investigation and white blood cell count determination to assess the possible return toward normal white blood cell count and shift back to normal cells is desirable.

At eight days. Besides the clinical investigation and WBC count a cold agglutinins test

TABLE I

Management of Atypical Pneumonias

Pneumonias by clinical and/or x-ray findings where a non-bacterial etiology is clearly evident.
Social History. Occupation — Hobby — Travel — Hospital Visit.
Past History. Pulmonary and Cardiovascular diseases — Cancer — Immunosuppression.
Clinical Symptoms and signs leading to the diagnosis of possible pneumonia with rapid deterioration of the patient. High fever — Minimal chest findings — Pleuritic pain — Cough without sputum — Diarrhea — Obtundation.
Chest x-ray. Suspicion or confirmation of pneumonia. Patchy interstitial infiltrate to consolidation.
Laboratory. WBC — Erythrocyte sedimentation rate — Cold agglutinins — Immunoglobulins level — Serum to be held for later investigation.
Bacteriology. Sputum or transtracheal aspiration.
Possible pathogen isolated. Antibiotic accordingly.
No pathogen isolated. Erythromycin.
Follow-up.
At 3 days. Clinical evaluation — WBC.
At 8 days. Clinical evaluation — WBC — Cold agglutinins — Chest x-rays.
At 21 days. Serum for serology.
Pair serum first day/21 days to be sent to CDC for serology of LD
If 4 fold rise — Legionnaire's Disease
Negative and no rise — Probable viral infection
Greater than 1/64 and no rise — LD in the past.

should be performed to rule out Mycoplasma infection, which may or may not have been demonstrated with the first cold agglutinins titer. Chest x-ray studies should be repeated. One of the characteristics of LD, along with other pneumonias, is a resolution of the x-ray findings after four to five days of therapy.

At twenty-one days. Serum should be drawn, and the paired sera (acute-convalescent) should be sent to CDC, the Center for Disease Control in Atlanta for serology of LD. The evaluation of the report is as follows:

Serum acute/convalescent
4 fold rise — Legionnaire's Disease
Negative and no rise - not Legionnaire's Disease
Positive greater than 1/64 and no rise - Legionnaire's Disease in the past

One should not forget that in an immunosuppressed patient, whatever the cause (drug, cancer, hypogammaglobulinemia), a negative serological test does not rule out the disease.

Treatment. Erythromycin is the antibiotic of choice, up to 4 grams intravenously for 7 to 14 days, based on the patient being afebrile for several days, return toward normal of the wbc and chest x-ray resolution.

Conclusion

Unexplained cases of pneumonia now warrant consideration of the possibility of a diagnosis of Legionnaire's disease (LD). With this diagnosis under suspicion, the management of atypical pneumonia (pneumonia by clinical or chest x-ray findings, or both, where a non-bacterial etiology is clearly evident) should stress the search for situation, symptoms, and signs often associated with LD, the early use of erythromycin with or without other antibiotics, and the timely taking of blood for serological evidence of the disease. Only if these steps are taken will we know the true incidence of LD.

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Experience With Prenatal Diagnosis In Rhode Island

Physicians Have The Responsibility Of Informing At-Risk Couples Of The Availability Of Prenatal Diagnosis

By Gail Barsel, MS
Siegfried M. Pueschel, MD
Howard A. Hall, MD
Dianne N. Abuelo, MD

Prenatal diagnosis of certain genetic defects by amniocentesis has been possible for at least a decade. While in the 1960's amniocentesis was used primarily as a research tool, during the past five to seven years it has become widely available for the diagnosis of certain genetic disorders.

The information gained through amniocentesis has significantly influenced the process of genetic counseling. Although it is unlikely that prenatal diagnosis will substantially reduce the incidence of genetic disorders in the immediate future, it provides data that facilitate accurate genetic counseling. Instead of being given calculated empiric risk figures, parents can be told whether or not a fetus believed to be at risk actually has a specific disorder. This knowledge enables individuals who are at risk for having a child with a genetic disorder to be well-informed when making choices about childbearing.

In the state of Rhode Island amniocentesis has been offered since 1974 through the Genetic Counseling Program of the Child Development Center. The purpose of this paper is to report our experience and to review the present state of the art relating to prenatal diagnosis of certain genetic defects.

From the Department of Pediatrics, Rhode Island Hospital; the Department of Obstetrics and Gynecology, Women and Infants Hospital; and the Section of Reproductive and Developmental Medicine, Brown University.

GAIL BARSEL, MS, *Genetic Counseling Coordinator, Rhode Island Hospital*
SIEGFRIED M. PUESCHEL, MD, *Director, Child Development Center, Rhode Island Hospital*
HOWARD A. HALL, MD, *Obstetric and Gynecological Consultant, Genetic Counseling, Rhode Island Hospital*
DIANNE N. ABUELO, MD, *Consultant in Genetics, Rhode Island Hospital*

Methods and Procedures

Referrals for amniocentesis to the Genetic Counseling Program at the Child Development Center, Rhode Island Hospital, originate from private physicians, from health agencies, and directly from patients. Prior to amniocentesis a genetic counselor obtains the family history and discusses all current information regarding amniocentesis, including the risks of the procedure itself and the

risks of having an affected child. During this initial discussion it is stressed that "normal" results cannot guarantee a healthy infant but can only rule out the presence of certain genetic disorders. The patients are informed that nearly all defects detected in utero are untreatable. It is suggested to the parents that they consider and discuss what their course of action would be if the results revealed an abnormality in the fetus.

If the patient decides in favor of amniocentesis, sonography is scheduled about the 15th week of pregnancy. Should sonography indicate a gestational age of 15 weeks or more, amniocentesis is done within several days. If the gestation is less than 15 weeks, amniocentesis is scheduled between the 15th and 16th week of pregnancy.

All amniocenteses are done on an outpatient basis at the Women and Infants Hospital in Providence. After routine preparation of the patient's skin, the abdominal wall is infiltrated with one per cent Xylocaine® hydrochloride. A 20 gauge spinal needle is inserted through the abdominal wall into the amniotic sac, and 15 to 20 ml of amniotic fluid is withdrawn. The fetal heart rate is obtained prior to and following amniocentesis. For Rh negative patients with Rh positive husbands, Rh immune globulin is administered after amniocentesis if the patient has not been previously sensitized.[1] Following the procedure the patient is discharged with no restrictions on activities. The patient is told that the results will be available in approximately three weeks. Upon completion of cytogenetic studies, biochemical studies, or both, the patient and the referring physician are informed of their outcome. All infants of mothers who underwent amniocentesis are examined shortly after birth.

Results

From August 1, 1974, to December 31, 1977, 96 patients have been referred to the Genetic Counseling Program for amniocentesis. Referrals have increased from 7 in 1974, to 13 in 1975, 30 in 1976, and 46 in 1977. As noted in the accompanying table the most common reason for referral was advanced maternal age (57 of the 96 referrals) with approximately 2/3 of the patients being between the ages of 35 and 39, and about 1/3 being 40 or older. Next in order of incidence was a previous child with Down Syndrome or other chromosomal abnormality(18 of the 96 referrals), and third a child with a neural tube defect (7 of the 96 referrals).

Sixty-three of the 96 referred patients underwent amniocentesis. Thirty-three of the referrals did not result in amniocentesis for the following reasons:

—Thirteen patients decided against amniocentesis after preliminary discussion indicated that their risks were less than they had anticipated.

—Nine of the patients aborted spontaneously prior to scheduled amniocentesis.

—In five cases amniocentesis was cancelled by the patient after the placenta was found to be in anterior position by sonography and concern was expressed about the safety of doing an amniocentesis with the placenta in this location.

TABLE I

Referrals for Amniocentesis
August 1, 1974 — December 31, 1977

Reasons for Referral	Total Referrals	Referrals Resulting in Amniocentesis
Advanced maternal age		
(35-39)	38	17
(40-44)	19	15
Previous child with Down syndrome or other chromosomal abnormality	18	13
Previous child with neural tube defect	7	7
Family history of Down syndrome or neural tube defect	6	3
*History of repeated spontaneous abortion, radiation, or drug abuse	5	5
Chromosomal abnormality in either parent	2	2
Other (Potter Syndrome)	1	1
Totals	96	63

*These are no longer considered indications for amniocentesis.

—Two patients chose termination prior to amniocentesis.

—Two women were referred for amniocentesis after the 20th week of gestation. (In Rhode Island therapeutic abortions are not ordinarily done after the 20th week of gestation).

—In two other situations the procedure was canceled by the patient after sonography had revealed twin gestation and the possible technical problems involved in amniocentesis with twin gestation were discussed with the parents.

Of the 63 patients who underwent amniocentesis, placental localization was carried out in 58 prior to this procedure. Thirty-one patients had posterior placentas; 25 patients had anterior placentas; one patient had a partially anterior and partially posterior placenta; and another patient had a placenta previa. In six patients with posterior placentas and in five patients with anterior placentas the amniotic fluid obtained was blood-tinged.

A sample of amniotic fluid was obtained successfully in 56 of the 63 patients. In four of the seven remaining patients a second amniocentesis was done without complications; the other three patients decided against repeating this procedure. Thus, a total of 60 amniotic fluids were obtained.

Adequate cell growth and interpretable laboratory results were obtained in 47 patients after the first amniocentesis, and in an additional 11 women after a second amniocentesis. In two patients the second amniocentesis was unsuccessful in terms of producing adequate cell growth for karyotyping; however, alpha-fetoprotein analysis was done on these specimens.

Of the 60 specimens that were analyzed, both fetal karyotype and alpha-fetoprotein analysis were done in 45; karyotyping alone was carried out in 11; and alpha-fetoprotein determination alone in four specimens. Alpha-fetoprotein analysis was normal in all tested specimens. Chromosomal studies were normal in all but two situations. One chromosome analysis revealed a balanced translocation in the fetus identical to that found in the mother; as expected, a phenotypically normal infant was subsequently delivered. The other abnormal karyotype showed an unusual minute chromosome which was also observed in some of the father's cells. The parents were told it was not possible to predict whether the child would be abnormal or normal. They decided to continue the pregnancy, and a phenotypically normal appearing male infant was subsequently delivered.

There have been no elective pregnancy terminations following the results of amniocentesis in the 63 patients who underwent this procedure. Three patients aborted spontaneously during the two weeks following amniocentesis. One of these had three previous spontaneous abortions, and one had a placenta previa. In addition, there were two unexplained fetal losses six weeks and three months respectively post amniocentesis and a stillbirth at 30 weeks of gestation.

Of the remaining 58 patients, 43 have delivered their infants. There have been no errors in fetal sex determination. Only one patient has been lost to follow-up. Fourteen patients are still pregnant. One infant, that of a diabetic mother, was stillborn. All infants that have been examined with three exceptions appeared to be physically normal. One infant was born with an extensive facial port wine nevus; another with cutaneous syndactyly of the second and third toes, which was also present in the father; and the third with a deep pilonidal sinus, a short lingual frenulum, and a superficial skin dimple above the right iliac crest. None of the infants had any defects or abnormalities that were attributable to the amniocentesis procedure.

Discussion

The data from our amniocentesis program and reports from other similar programs reveal that the most common indication for amniocentesis is advanced maternal age.[2-5] There is no sharp dividing line above which maternal age is considered "advanced," but most centers are currently using 35 years as a criterion, whereas a few years ago 40 years was the designated age. It is well-known that older mothers have an increased risk of giving birth to a child with Trisomy 21. Milunsky and Golbus conclude from their respective analyses that the risk of having a chromosomally defective offspring for women 35 to 39 years of age is slightly more than two per cent; the risk for women 40 to 44 is

between three and four per cent; and the risk for women 45 years or older is about 10 per cent.[2 5] Investigations carried out by the National Institute of Child Health and Human Development (NICHD) and the Canadian collaborative study revealed that one out of 60 fetuses studied had a chromosomal abnormality when the mother was 35 to 39 years of age, and one out of 20 when the mother was 40 years or older.[3 4]

The second most frequent indications for prenatal diagnosis is a previous child with Trisomy 21. The risk of recurrence appears to be one to two per cent.[2-5] A chromosomal abnormality in either parent, such as a balanced translocation, is also an indication to perform a fetal chromosome analysis.

Concerning severe X-linked genetic disorders, only three rare conditions (Hunter's syndrome, Fabry's disease, and Lesch-Nyan syndrome) are specifically diagnosable in the affected male fetus.[2-5] For women who are known carriers of other X-linked disorders, such as Duchenne Muscular Dystrophy, the affected male cannot be distinguished from the unaffected by studies of the amniotic fluid; only prenatal sex determination could be offered to these families in the past. Mahoney in a recent publication has described pre-natal diagnosis of Duchenne Muscular Dystrophy by use of creatine phosphokinase analysis of fetal blood obtained via fetoscopy.[6]

Prenatal diagnosis is now available for over 60 of the known hereditary biochemical disorders, which individually are quite rare, but which carry a 25 per cent risk of occurrence in each pregnancy. Many lipidoses, mucolipidoses, mucopoly-saccharidoses, and amino acid and carbohydrate disorders can be identified.[7] Carrier detection is of prime importance in prenatal diagnosis of these disorders and has been used most extensively for Tay-Sachs disease prevention.[8 9]

Recently sickle cell anemia and beta-thalassemia have been diagnosed in utero. This procedure requires sampling of fetal blood and is available in only a limited number of centers in the United States.[10-12]

Another large category of disorders that can be diagnosed prenatally are neural tube defects, such as spina bifida and anencephaly. The alpha-fetoprotein assay is now an established tool for the laboratory diagnosis of these malformations and will detect about 90 per cent of neural tube defects. The other 10 per cent are small, usually closed neural tube lesions that are not amenable to diagnosis by this method.[13] Amniocentesis and subsequent alpha-fetoprotein determination is suggested for couples who have previously had a child with a neural tube defect, since their risk of recurrence is three to five per cent. In addition, because the incidence of neural tube defects is approximately 1 in 500, it has been recommended that an alpha-fetoprotein assay be done on all amniotic fluid specimens obtained for prenatal genetic studies.[2 13]

Recently, the measurement of alpha-fetoprotein in maternal serum has presented an opportunity to screen all pregnancies for possible open tube defects. It has been suggested that, after two consecutive elevated alpha-fetoprotein levels are found in maternal serum, amniocentesis and alpha-fetoprotein assay on the amniotic fluid be done. Although the efficacy of this approach is still under evaluation at the present time, alpha-fetoprotein determination in maternal serum may well become a part of routine obstetric practice in this country as it has been in some parts of Britain.[14]

There is ample evidence that amniocentesis for prenatal diagnosis is underutilized. According to Rhode Island vital statistics, approximately 1,500 babies were born to Rhode Island mothers who were 35 years of age or older during the period covered in this study. Yet, our program has received only 57 referrals for amniocentesis for women who were 35 or older during this period, which is less than four per cent of this population. Allowing that an estimated comparable number of amniocenteses may be done by private physicians, it is apparent that utilization of amniocentesis for women aged 35 and older is still under eight per cent in this state. This is not unique to Rhode Island; in Massachusetts 4.1 per cent, and in California only about two per cent of pregnant women 35 years and older had an amniocentesis in 1974.[2 15] Although these figures have increased for 1975-1977, and have reached 25 per cent in some parts of New York and Georgia, this is still a low percentage of the target population.[16] It is estimated that the

number of infants born with Down syndrome could be reduced by 1/3 if amniocentesis were made available to all pregnant women 35 years and older.[15]

The reasons for reluctance to recommend amniocentesis for patients who are at risk for conditions that could be diagnosed in utero are varied and include medical, moral, ethical, and religious issues. Medically, there have been concerns about the risks of the procedure for both mother and fetus, risks such as spontaneous abortions, obstetrical complications, or damage to the fetus itself. Yet, the risk appears to be low based on the cumulative experience of many genetic centers and on the NICHD study. The NICHD study showed no statistically significant difference between 1,040 amniocentesis subjects and 992 control subjects in the rate of fetal loss (3.5 per cent for the amniocentesis subjects and 3.2 per cent for the controls) or incidence of complications during pregnancy or delivery. Furthermore, examination of subsequent newborns revealed no significant differences between the two groups in the incidence of congenital anomalies or evidence of physical injury to the infants resulting from amniocentesis. When reexamined at one year of age, the infants of the two groups again did not differ in their physical, neurological, or developmental status. The overall accuracy of the procedure was 99.4 per cent.[3]

In our own experience there were no obstetrical complications following amniocentesis. Although there have been three fetal losses within two weeks of amniocentesis, it is not possible to determine if any of the losses were causally related to this procedure. Some physicians are reluctant to perform amniocentesis when an anterior placenta is found by sonography. Our data, however, indicate no increased obstetrical complications attending amniocentesis in the presence of an anterior placenta. Most importantly, infants born subsequent to amniocentesis have had no apparent injuries or birth defects attributable to this procedure.

Objections to amniocentesis have also been based on moral and ethical grounds because of its association with abortion. Yet, reports of studies from other amniocentesis programs indicate that over 95 per cent of women who undergo this procedure continue the pregnancy mainly because of the reassurance they gained from the results.[3,4] Some of our patients stated that they would have considered elective termination of the pregnancy for fear of having an affected child had amniocentesis not been made available to them. We believe that a physician's personal conviction or viewpoint should not prevent his patients from having access to prenatal diagnosis. Decisions concerning childbearing should be made only by the couple involved after being informed of all the risks and options. In fact, the physician is now considered legally, as well as professionally, remiss if he fails to inform an at-risk patient about the availability of prenatal diagnosis.[17]

Conclusion

Amniocentesis for prenatal diagnosis when done by an experienced team has been shown to be a low-risk procedure for both mother and fetus. The principal indications for amniocentesis have been advanced maternal age (35 and older), the birth of a previous child with a chromosomal abnormality, and the birth of a previous child with a neural tube defect. Results of prenatal studies have served to provide much needed reassurance to many couples who otherwise may have been quite reluctant to undertake or continue a pregnancy. Amniocentesis has enabled many at-risk individuals to look forward to the birth of an infant who is unaffected by the condition for which they were at risk.

Acknowledgement

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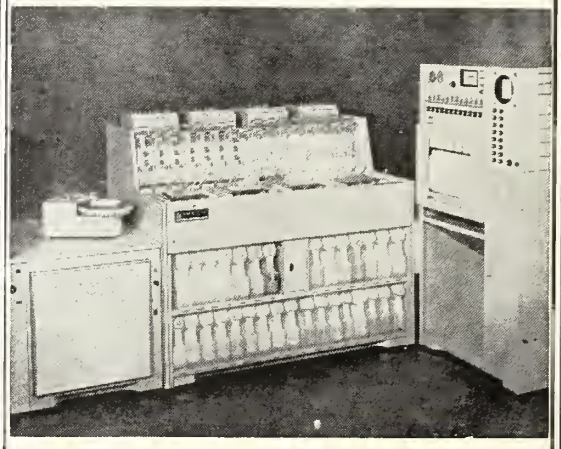

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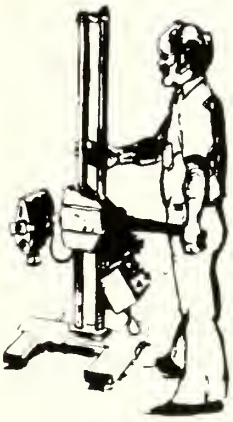

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Axillary Distal Profunda Femoral Artery Bypass

Authors Describe A New Operative Approach For Infected Aortic Grafts

By James J. Yashar, MD
Ralph J. Burnard, MD
Albert K. Weyman, MD
John Yashar, MD

Prosthetic graft infection is one of the most serious complications of reconstructive vascular surgery. While uncommon, it is a disastrous complication which often results in loss of life or limb.

The treatment of infected prostheses involving the anastomotic sites includes removal of the graft and reconstruction with an extra-anatomical bypass.[2 3 4 5 6 10] This bypass must be performed in an aseptic skin field. Bypass from axillary arteries to the superficial femoral arteries in the midthigh has been an accepted technique. Unfortunately, removal of an infected aortofemoral graft, if associated with a previously occluded superficial femoral artery, will necessitate amputation of the lower extremities. During the past year we have successfully employed axillary distal profunda femoral bypasses in two patients presenting with this problem.

JAMES J. YASHAR, MD, *Clinical Instructor in Surgery (Thoracic) Brown University, Providence, Rhode Island; Chief of Thoracic and Cardoivascular Surgery, Woonsocket Hospital, Woonsocket, Rhode Island; Chief of Peripheral-vascular Surgery, Roger Williams General Hospital, Providence, Rhode Island*

RALPH J. BURNARD, MD, *practices Cardiovascular and Thoracic Surgery in Rhode Island*

ALBERT K. WEYMAN, MD, *Clinical Instructor in Surgery (Thoracic), Brown University, Providence, Rhode Island; practices Cardiovascular and Thoracic Surgery in Rhode Island*

JOHN YASHAR, MD, *Clinical Assistant Professor of Surgery (Thoracic), Brown University, Providence, Rhode Island; Chief of Cardio-thoracic Surgery, Roger Williams General Hospital, Providence, Rhode Island*

Clinical Material

During an eleven year period, from January 1966 through April 1977 our group performed vascular reconstruction of the aorto-femoral-popliteal area, using prosthetic grafts, in 590 patients. Fifteen graft infections developed in thirteen patients, for an *incidence* of 2.4 percent. Two of these patients had occluded superficial femoral arteries associated with aortofemoral graft infection. These patients were treated by resection of the infected graft and extra-anatomical bypass with axillary-distal-profunda-femoral artery grafts.

From the Department of Surgery, Brown University, and the surgical services of Roger Williams General and The Miriam Hospitals of Providence; The Memorial Hospital, Pawtucket; and the Woonsocket Hospital.

Case Report

A 76-year-old man was admitted to the hospital on October 29, 1975 for evaluation and treatment of intermittent claudication and rest pain of the lower extremities. These symptoms were more severe on the left and had been present for several months. Physical examination revealed abdominal and iliac bruits with only a weak femoral pulse on the right and absence of all lower extremity pulses on the left. Aortography revealed severe stenosis of the abdominal aorta and iliac arteries, and complete occlusion of both superficial femoral arteries with reconstitution at the popliteal level. On September 29, 1975 the patient underwent an uneventful aorto-bilateral-common-femoral artery bypass and bilateral lumbar sympathectomy. Eighteen months later, on April 2, 1977, the patient presented with painless swelling in both groins, which had been present for six weeks. An aortogram revealed a well functioning aorto-bilateral-femoral bypass without evidence of false aneurysm formation. An echogram of the abdominal and iliac vessels demonstrated the presence of an abcess surrounding the entire graft (Fig I). On April 8, 1977 a bilateral axillary-distal-profunda-femoral bypass and removal of infected prostheses were performed. The patient subsequently enjoyed an uneventful recovery and has remained completely free of symptoms.

A second patient was treated similarly during the previous year and also recovered uneventfully from surgery, but six months later the patient developed infection of the axillary femoral bypass, refused further surgery, and died eventually from rupture of the graft.

The patient is placed in the supine position on the operating table, with the arms extended at right angles to the body. The skin is incised transversely 5 cm below the clavicle, and the pectoralis major muscle was divided in the direction of its fibers. The costoclavicular fascia is opened and the first portion of the axillary artery between the clavicle and the pectoralis minor muscle tendon is mobilized. A 10 cm incision is made in the thigh 12 to 15 cm below the inguinal ligament and 5 cm below the infected area. The adductor longus muscle is divided 1 cm medial to its femoral insertion, and the distal profunda femoral artery is identified and mobilized. A tunnel is prepared deep to the pectoralis minor muscle and is directed laterally and inferiorly to the level of the 8th or 9th rib in the mix-axillary line, where another skin incision is made. The tunnel is then continued from this incision inferiorly through the external oblique aponeurosis posterior to the superior iliac crest and toward the exposed distal profunda femoral artery. Care is taken to keep the tunnel at least 5 to 7 cm lateral to the infected groin incisions.

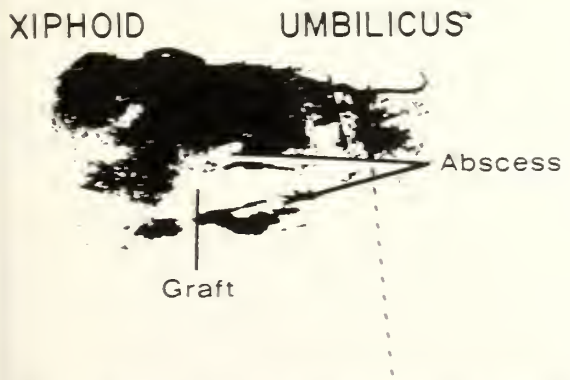

Fig. I Echogram of the abdomen revealing pressure of the abscess around the graft.

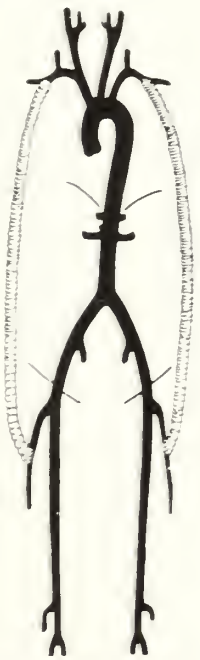

Fig. II Diagramatic illustration of bilateral axillary distal profunda artery bypasses.

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After closure of the various incisions occlusive waterproof dressings are applied and isolated from the second field exposing the original abdominal and inguinal incisions, through which the infected aortic graft is removed and the retroperitoneal space is drained with sump drains via the groin incisions. Antibiotic coverage is instituted postoperatively.

Discussion

That treatment of infected vascular grafts is difficult, is attested to by the 25 to 75 percent mortality rates reported in the literature. In 1959 Schramel et al [8] described ligation of the artery with excision of the infected graft. Blaisdell[1] in 1961 was the first to recommend removal of the infected prosthesis associated with bypass, in this case from the thoracic aorta to the femoral artery. In the same year Carter reported antibiotic treatment and irrigation of the infected graft with good results. In 1962 Vetto[11] published the technique of femoro-femoral bypass. In 1963 Blaisdell et al[2] described axillo-femoral bypass for infected prosthetic grafts, and in the same year Shaw[9] reported the principle of obturator foramen bypass. Recently Royster et al [7] reported aorto-distal-femoral bypass using the obturator-canal route. To our knowledge axillary-to-distal-profunda-femoral-artery bypass has not previously been reported in the literature. This bypass technique supplies adequate circulation to the lower extremities in patients with combined aorto-iliac and superficial femoral occlusive disease, and neither of our patients required amputation. During the last two years, because of this aggressive surgical management of infected prosthetic grafts, we have been able successfully to treat two patients and prevent amputation and postoperative mortality.

Summary

Infection of aorto-femoral bypass grafts associated with occluded superficial femoral arteries carries a high morbidity and mortality. A case is reported and the technique of extra-anatomical bypass using bilateral axillary-distal-profunda-femoral-artery reconstruction is described. Two patients have been successfully treated using this approach in conjunction with resection of the infected prosthesis. These patients require aggressive treatment. We believe that this technique should be considered in their management.

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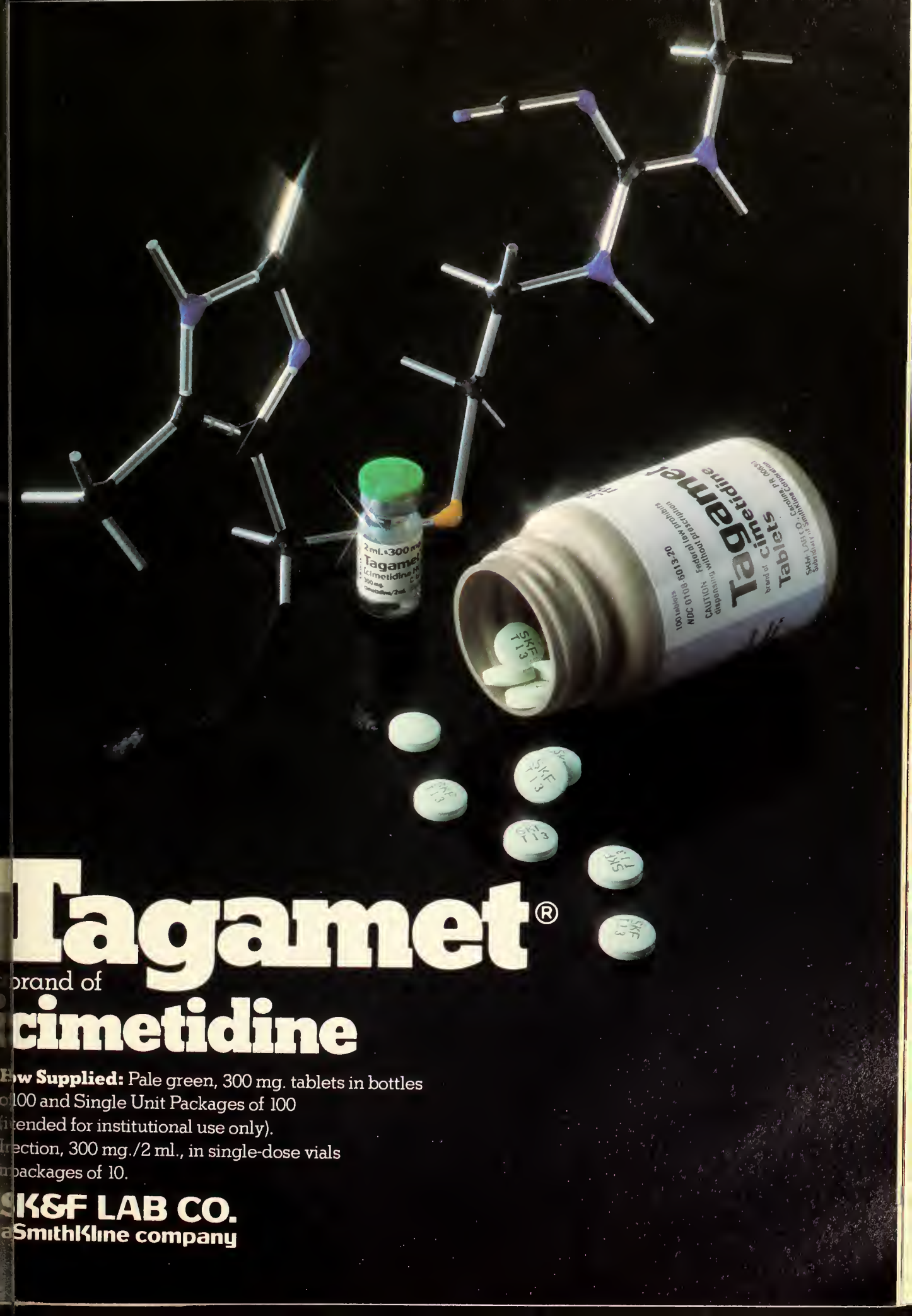

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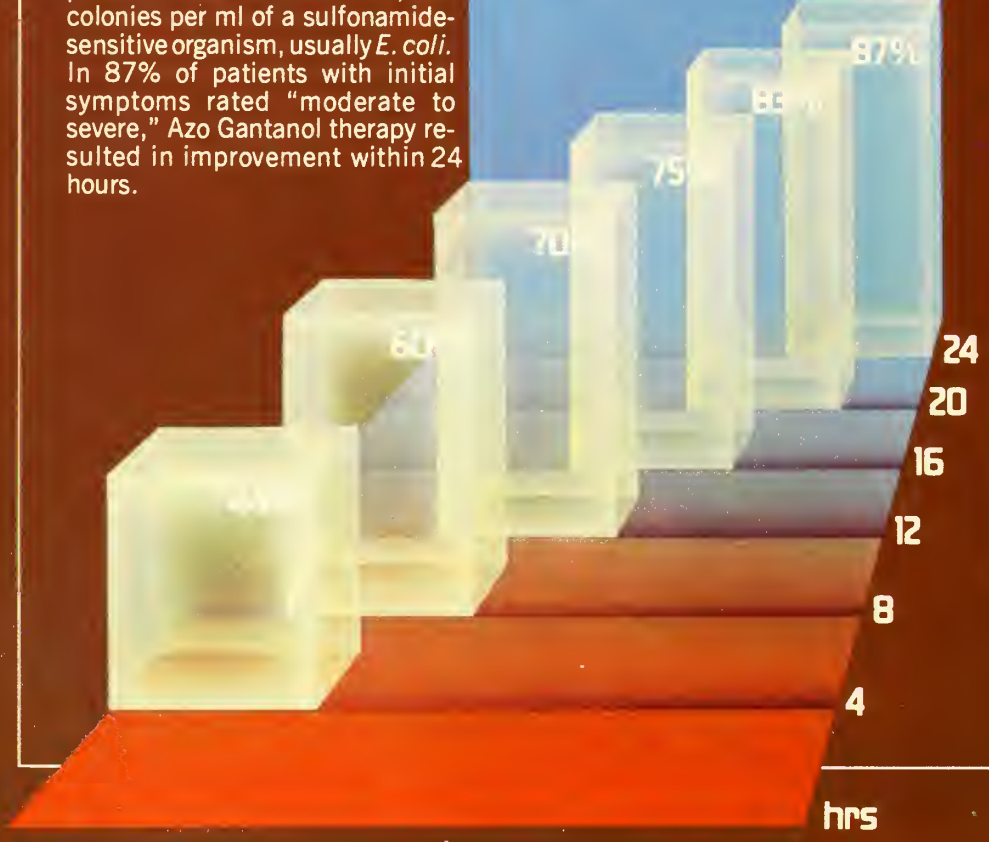

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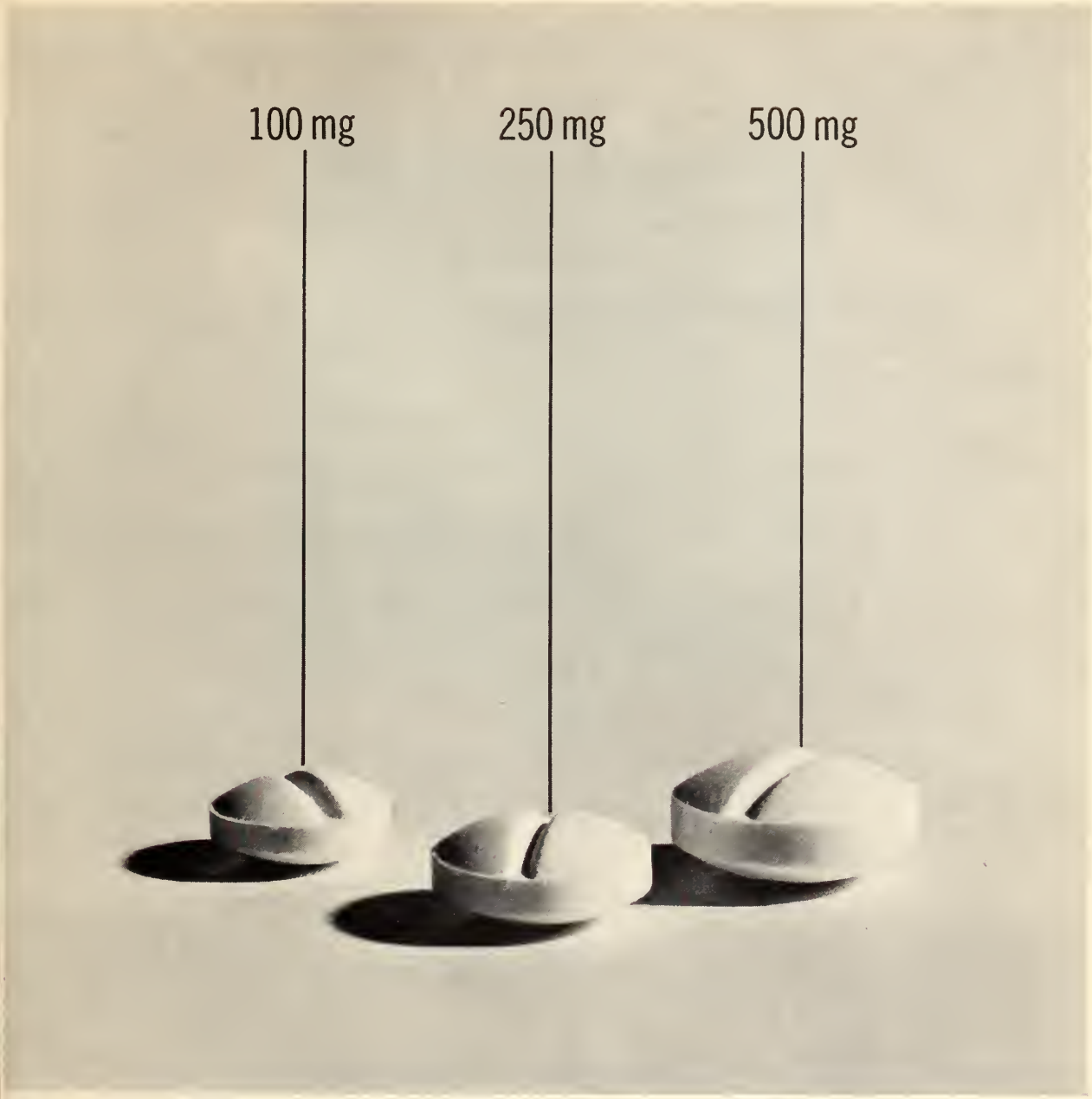

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Editorials

Hospital Costs

We have on occasion ruminated in these columns about the responsibility of the academic community for the education of medical students and house staff concerning the costs of hospital services. This is important if we are ever to curb the lavish utilization of services in modern medical practice.

A recent study at the University of Miami School of Medicine points up this problem. In the survey 316 house officers and 70 third year medical students who were either beginning or ending surgical clerkships at Jackson Memorial Hospital were asked a series of questions. Surveys covering the same data were also mailed to 112 full-time university clinical faculty members.

Physicians and students were asked to estimate the charges for 17 commonly billed items at the hospital, such as a unit of blood, a semi-private room, a urinalysis, an electrocardiogram, an upper gastrointestinal series, and a liter of intravenous solution.

Answers were deemed "correct" if they were within 10 per cent of the actual listed charges. Only one per cent of the faculty and two per cent of the house staff had the correct prices of more than half the items on the list. None of the students knew the correct prices of more than half of the items. Students on the average scored only 3 out of 17 respectively.

Without having some concept of cost, it is hardly possible to judge cost effectiveness. It is the responsibility of the academic community to know the costs of hospital services and to teach students and house officers a reasonable degree of responsibility in their utilization.

Bladder Cancer And Smoking

Among the panoply of diseases related to cigarette smoking, bladder cancer has received less attention than it deserves. In yhe hue and cry over saccharin and cyclmate, which probably have produced much more good than evil, a far more prevalent cause of bladder cancer has been lost sight of.

Wynder and Goldsmith conducted a case study of bladder cancer among 574 males and 158 females in the years 1969-1974 in 17 hospitals in six American cities. An equal number of matched individuals were used as controls. The authors concluded that cigarette smokers of both sexes were at higher relative risk than non-smokers. Cigarette smoking was responsible for about one-half (48 per cent) of male and one-third (31 per cent) of female bladder cancer. There was however an excess of bladder cancer among those with some previous occupational exposures, such as rubber, chemicals, and textiles. Preliminary studies by these authors revealed significantly more cigarette smokers, and more heavy cigarette smokers among bladder cancer cases than among controls. Cigarette smokers had a relative risk of bladder cancer four times that of non-smokers. Bladder cancer among females is decreasing.

The potent bladder carcinogen B-napthylamine is present in cigarette smoke; and a variety of nitrosamines have also been

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identified. Nitrosamines have demonstrated carcinogenic properties. Further studies indicate that the excess risk among tobacco users resides largely with cigarette smokers. Since the association is limited to cigarette smokers, inhalation appears to be of importance.

There is a strong relationship of the incidence of the disease both with the number of cigarettes smoked and with the duration of use. The proportion of non-cigarette-smokers among controls is almost double that of bladder cancer cases. No beneficial effect of cigarette filters can be demonstrated.

With respect to the effect of artificial sweeteners the incidence of bladder cancer among diabetics is revealing. It is an impressive finding that a larger proportion of diabetic bladder cancer patients smoked cigarettes than did diabetic controls.

While much work needs to be done in positively identifying the carcinogens in the bladder urine of smokers, powerful circumstantial and epidemiological evidence exists which incriminates cigarette smoking in the causation of bladder cancer. The list of serious illnesses that are tobacco-related is long and chilling. When will the public begin paying attention?

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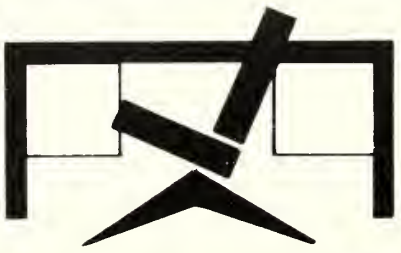

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Editor's Mailbox

To the Editor:

Our organization, The Rhode Island Interscholastic Injury Fund, invited five doctors and their wives to the annual May dinner meeting of the executive board. The doctors were there because we wanted to tell them how much we appreciated what they had done for our organization and to give them a sincerely belated "Thank you."

About 30 years ago six Rhode Island high school football coaches decided to raise some money and with that money pay the medical bills for high school football injuries. The first years were most difficult, and had it not been for Doctors Edward G. Crane, James R. McKendry, A. A. Savastano, Louis A. Mariorenzi, William F. Garrahan, and many others our organization would have disappeared. These doctors gave immediate treatment to the injured athletes, many times reduced their fees, and quite often submitted no bill at all.

Over the years, the Interscholastic Injury Fund has increased its coverage to include all boys and girls in all sports in all junior and senior RI high schools, which are under the jurisdiction of the Rhode Island Principals' Committee on Athletics. There is no charge to any athlete, and it is our goal to see that no parent of any injured athlete has to pay a penny of medical bills.

Now that we are financially stable, we have expanded our coverage to provide rehabilitation through therapy and courses in the care and prevention of athletic injuries to students, coaches, and nurses at six Rhode Island hospitals. Our group is the only one of its kind in the United States.

Were it not for these devoted doctors, who shared our hopes and dreams of providing the financial base for medical care to the injured athletes, our organization would not exist. So, to these doctors, dedicated to sports and youth, we say a most grateful "Thank you."

Irving Nelson, President
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The Huntleigh Group of England offers a new and highly efficient method of reducing and controlling edema of the arm after mastectomy. The device may be employed by the patient in the home after a short course of instruction. The arm is covered with stockinette and put into a pneumatic sleeve attached to a quiet electrically operated Berkeley Flowtron pump. The sleeve is inflated during a cycle of about two minutes' inflation and two minutes' deflation. The pressure may be varied and is usually used as high as is comfortable. The method is also adaptable to leg disorders.

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lubrication of the feet. Designed for use by dermatologists and by patients.

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Stuart Pharmaceuticals announces FDA clearance for a new drug for the palliative treatment of advanced breast cancer in postmenopausal women. It is an antiestrogen. The trademarked name is Novadex® (tamoxifen citrate). Nolvadex offers convenient oral therapy and avoids or minimizes many of the serious side effects often associated with breast cancer therapy. Experience with it in Europe has amounted to more than 10,000 patient-years.

* * *

Merck Sharp and Dohme, after 10 years of research and testing, will market "Elspar" (Asparaginase, MSD), an agent effective against acute lymphocytic leukemia. It is used only in combination with other agents such as vincristine and prednisone. Side effects can be serious.

* * *

Searle has acquired the worldwide marketing rights for a new drug used in the treatment of two forms of vaginal infection. A new antibiotic called Tricandil (mepartricin) is administered as a vaginal tablet for treatment of vaginitis caused by candia albicans or trichomonas.

* * *

Abbott has a new drug, Abbokinase, a brand of urokinase, useful for dissolving blood clots in the lungs in cases of pulmonary embolism. Urokinase is produced in the kidney and excreted in the urine. Abbott research has found a method of producing the drug in much larger quantities from kidney cells in tissue culture. Abbokinase is administered by vein over a 12-hour period.

* * *

Abbott Laboratories has received approval from the FDA for marketing valproate (valproic acid). The brand name will be Depakene, and will be sold in capsule and liquid form. Its special usefulness appears to be in the treatment of patients who do not respond with control of epileptic seizures while taking the drugs currently available.

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Schering Laboratories has announced Fulvicin P/G 250 mg., a new one-tablet-a-day

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(Continued from Preceding Page)

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* * *

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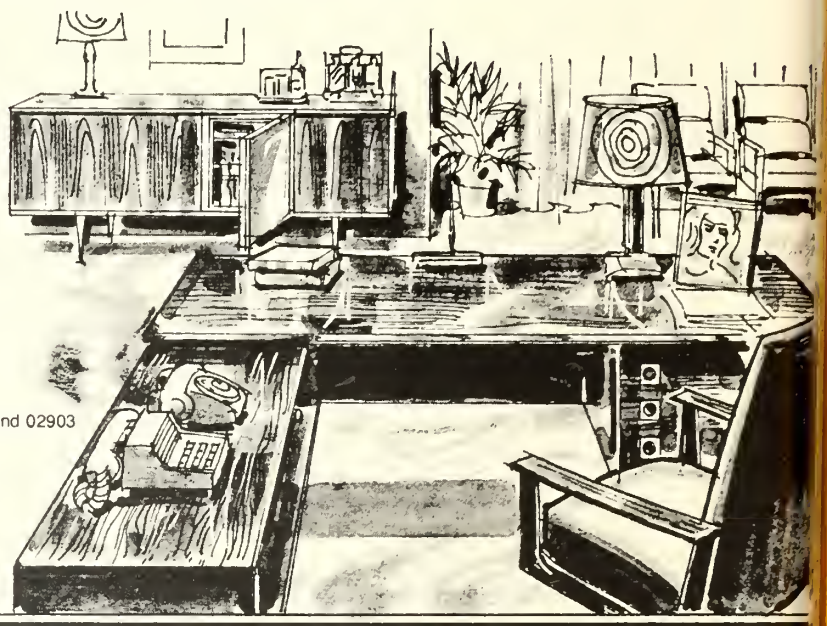

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Supreme Court Acts

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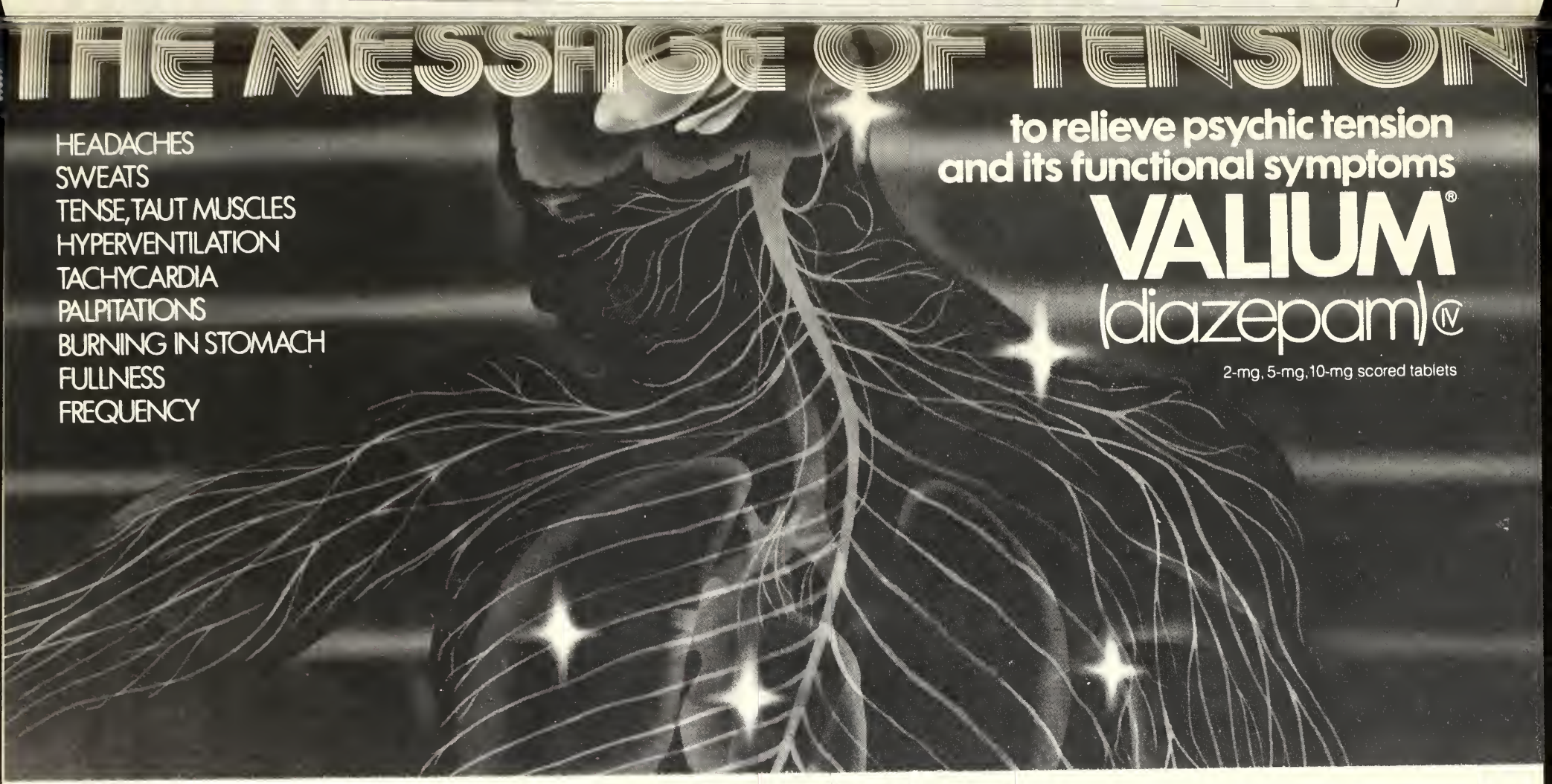

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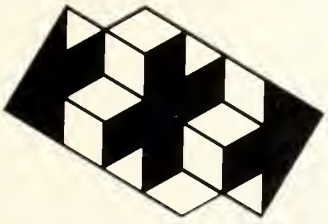

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A Message From The Dean

The Early Identification Program For Providence College And University Of Rhode Island Students

Some years ago concerns had been expressed that the newly-formed Brown medical school was not sensitive to the problems which Rhode Island men and women were encountering when they sought admission to accredited United States colleges of medicine. We have recently graduated our fourth class of physicians this past June and we are about to admit our eighth class of medical students this forthcoming September. It may therefore be of some value at this juncture to review Brown's record on this issue.

These eight medical school classes at Brown represent about 480 students (approximately 60 students per class) of whom 143 are Rhode Islanders. (An applicant is considered a resident of the State of Rhode Island *only* if a major portion of the applicant's support, prior to admission, has been derived from income or property subject to taxation within the State of Rhode Island). Of the 243 who have already been granted a Brown MD degree (the first four graduating classes), 53 were Rhode Islanders (about 22 per cent). In the succeeding four medical school classes (ie, those currently matriculating at Brown), 90 are Rhode Islanders (about 37 per cent).

Concerns were further voiced that Brown was not accepting Rhode Islanders who had previously attended the University of Rhode Island or Providence College. Some five years ago Brown had initiated an Early Identification Program (EIP) whereby gifted undergraduates at Providence College and the University of Rhode Island were selected by a special admissions group at the completion of their first year of undergraduate studies and were invited to seek Early Decision admission to the Brown Program in Medicine. Students accepted into this special program continue their undergraduate premedical education at their own schools for a period of four years or until such time as they have completed the requirements for a bachelor's degree. EIP students who have maintained superior academic records, have achieved MCAT scores acceptable to the academic affairs committee at Brown, and have been favorably considered by interviewers will then be recommended for admission to the Brown medical school. This program has worked surprisingly well and has resulted in the admission to date of 13 Rhode Islanders who had completed their education at Providence College or the University of Rhode Island. The operation of this Early Identification Program, however, has not precluded admission of Rhode

Rhode Islanders Admitted to Brown Medical School

Year Admitted	Year Graduated (as MD)	Rhode Islanders who had graduated from: uri	PC	Other Schools	Total
1971	1975	0	1	10	11
1972	1976	2	1	9	12
1973	1977	2	0	12	14
1974	1978	1	0	15	16
1975	1979	1	2	12	15
1976	1980	2	3	26	31
1977	1981	3	4	18	25
1978	1982	4	3	12	19
Totals:		14	14	114	143

Islanders attending either Providence College or the University of Rhode Island through conventional channels. As of this date we have accepted 29 graduates of these two schools, 13 of whom were incorporated in the Early Identification Program described above. These 29 students come from virtually every part of the state, largely from the Providence, Warwick, Cranston, Pawtucket, and the Blackstone Valley regions.

The academic performance of these students while at the Brown medical school has been very gratifying and unblemished. Not a single one of these 29 students has been dropped from the Brown Program in Medicine or was required to repeat an academic year. Their performance by such objective criteria as the National Board of Examiners tests has also been satisfactory.

Of the 53 Rhode Islanders who have already received MD degrees from Brown University (MD Classes of 1975-78), seven were also graduates of Providence College or the University of Rhode Island. These seven individuals have been accepted to fine graduate medical education programs including Rhode Island Hospital, Roger Williams General Hospital, Women & Infants Hospital, University of Southern California Medical Center, University of California Hospital (San Diego), New Britain General Hospital, Albany Medical Center, and Henry Ford Hospital in Detroit. They are all prospering well, and many have expressed a desire to return ultimately to Rhode Island for the practice of medicine.

Brown strives to become a national school of medicine providing the best in medical education, leadership in creative biomedical research, and superior skills in the pursuit of human medicine. Brown nevertheless recognizes its home in Rhode Island and is sensitive to the substantial number of gifted Rhode Island men and women who deserve the opportunity to study the art and science of medicine.

Stanley M. Aronson, MD
Dean of Medicine
Brown University

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Previous to receiving the premium awarded, the author of the successful dissertation must transfer to the Trustees all his right, title and interest in and to the same, for the use, benefit, and advantage of the Fiske Fund.

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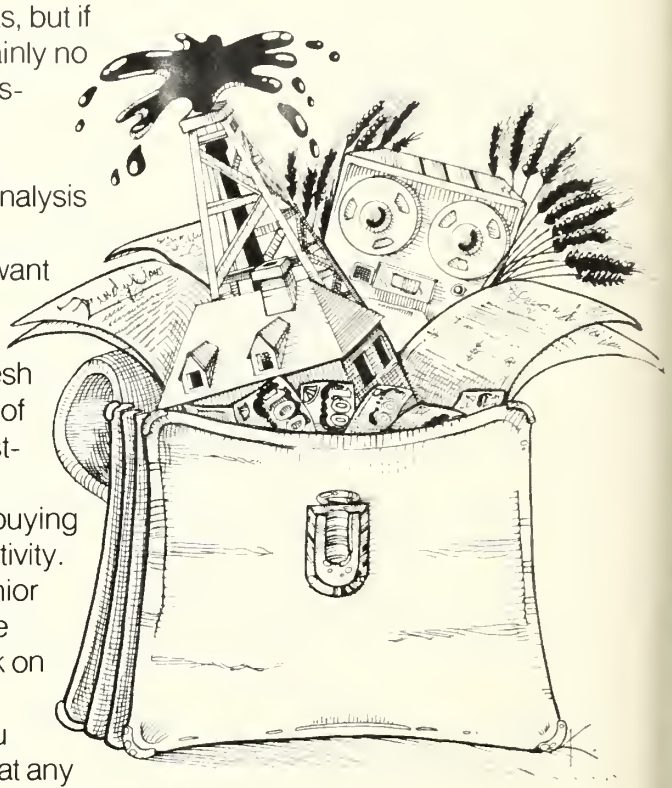

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Peripatetics

President-Elect of the National Association of Medical Examiners, WILLIAM Q. STURNER, MD, will assume the presidency of the association at their next annual meeting, which will be hosted by Doctor Sturner this fall in Newport.

* * *

ARTHUR B. KERN, MD, was recently elected Vice-President of the New England Dermatological Society.

* * *

Newly elected officers of the District I, Rhode Island Section of the American College of Obstetricians and Gynecologists are J. DOUGLAS NISBET, MD, chairman and ALVIN G. GENDREAU, MD, vice chairman.

* * *

EDWARD A. IANNUCCILLI, MD, has been appointed to the Rhode Island Formulary Commission, the first physician to hold membership in the eleven-member group. The appointment was made by Governor J. Joseph Garrahy.

* * *

The American Broncho-Esophagological Association elected MARY D. LEKAS, MD, to their membership, after Dr. Lekas presented five published articles pertinent to the field of Broncho-Esophagology.

* * *

D. ROBERT FOWLER, MD, has received an appointment by Governor J. Joseph Garrahy to the State Wide Health Coordinating Council.

* * *

Local physicians recently named Fellows of the American College of Radiology are JAMES F. BOYD, JR, DONALD B. FLETCHER, and ALBERT F. ROCCO, MDs.

* * *

SANFORD C. SPRARAGEN, MD, was recently elected to the Executive Committee of the House of Delegates, the American College of Nuclear Physicians.

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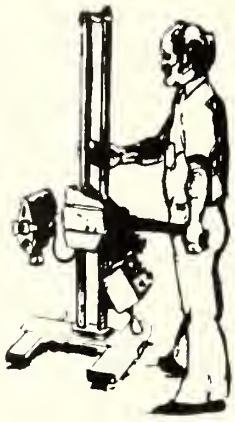

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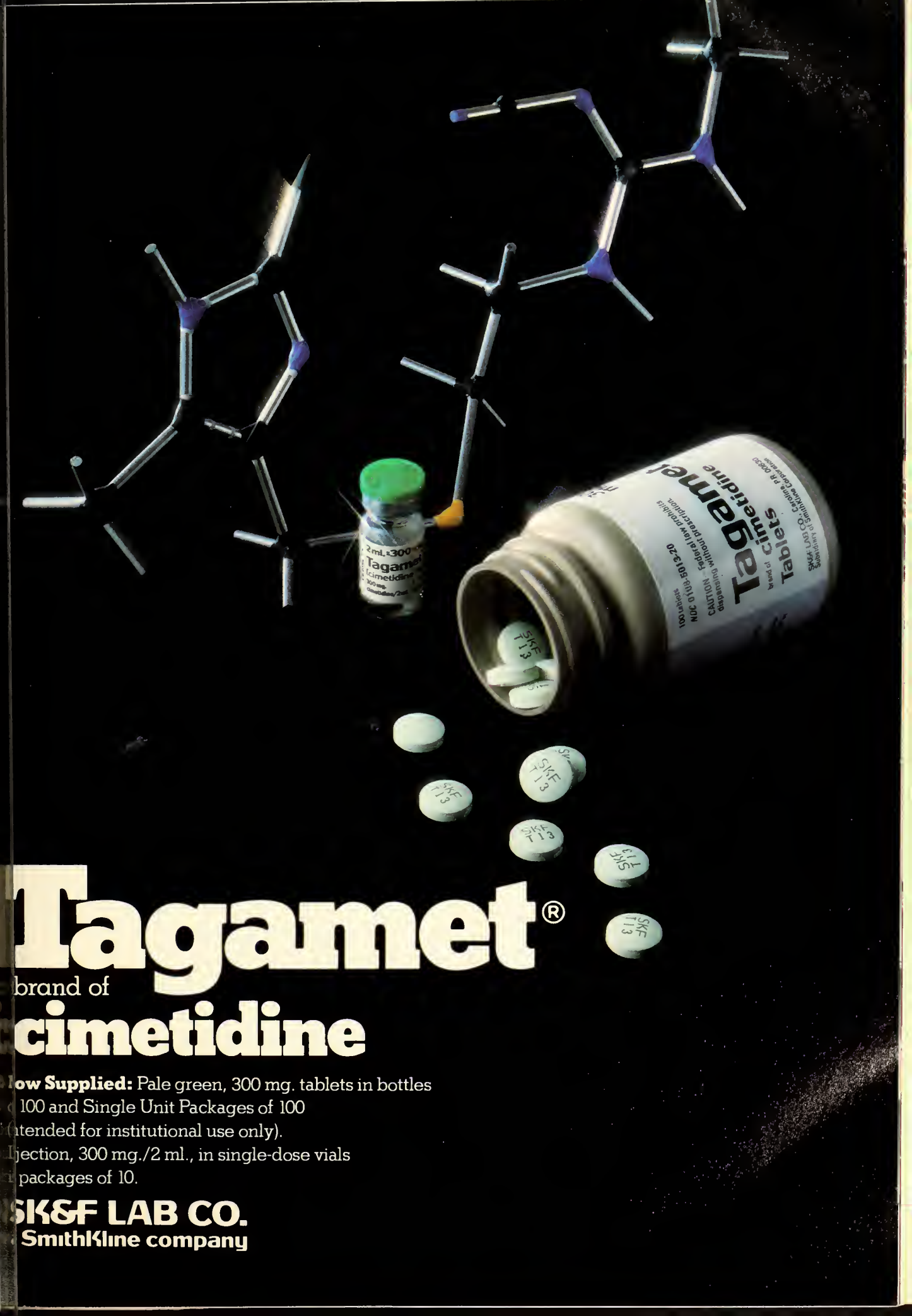

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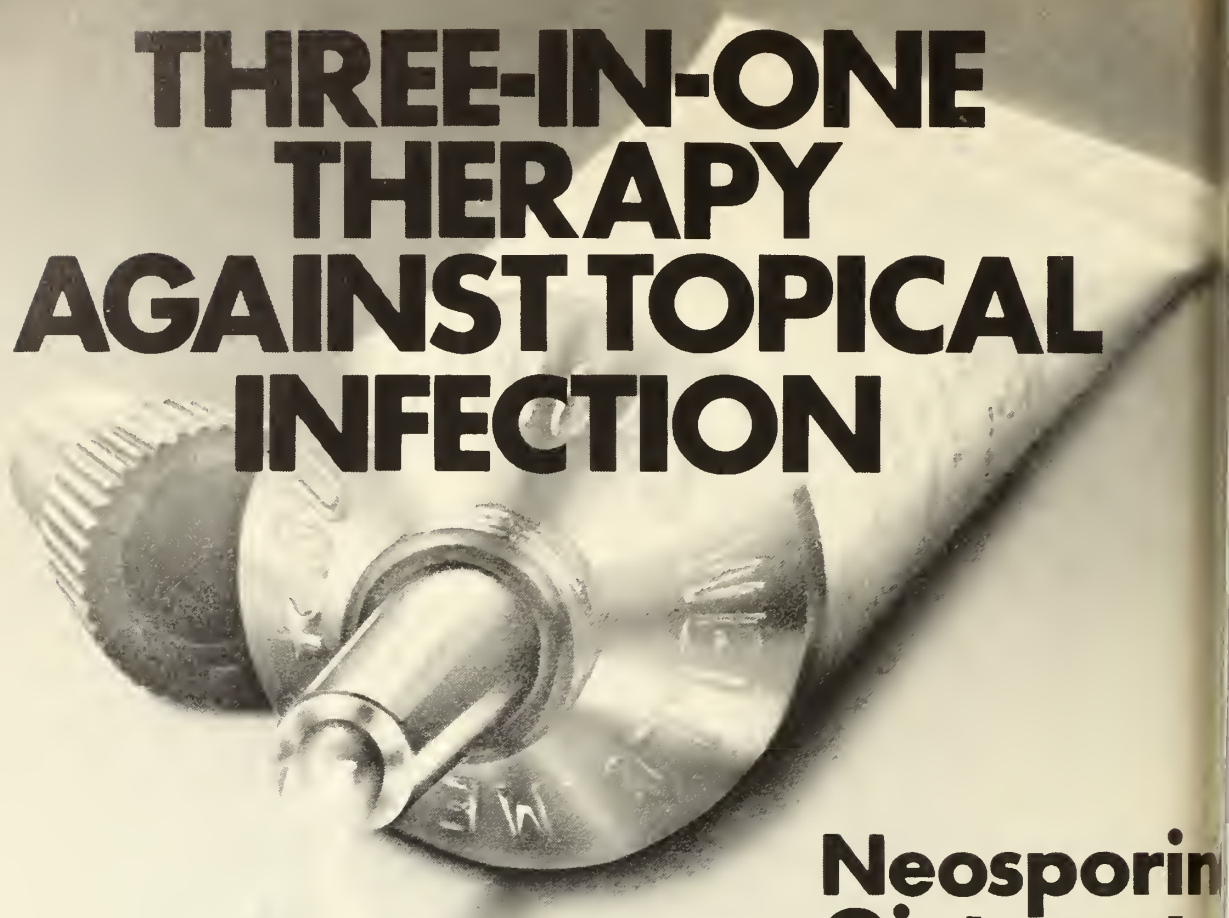

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Patient Exposure During Diagnostic X-Ray Procedures In Rhode Island: A Report On The Rhode Island *NEXT* Program

Study Provides A Basis For Efforts To Reduce Patient Exposure

By James E. Hickey

Prior to 1970 the federal government and the states participated in two studies to assess indices of exposure to patients during diagnostic x-ray procedures. Known as the X-ray Exposure Studies (XES), these projects produced useful information on such topics as gonad dose. However, the XES effort was considered inadequate in terms of the size of the data base, the types of data collected, and the system for handling the data. As a result, a continuing system of much larger scope was designed and implemented by the Bureau of Radiological Health, Food and Drug Administration and the state radiation control programs. This system was given the name NEXT, which is an acronym for Nationwide Evaluation of X-ray Trends. Forty-six states, several foreign countries, and several federal agencies currently participate in the NEXT program providing an impressive national and international data base for the system.

The Rhode Island Radiation Control Agency of the Department of Health began its participation in the NEXT program in October 1975. By April 1977 one hundred diagnostic x-ray facilities in Rhode Island had been surveyed, and the data collected during these surveys has been entered on the NEXT master file. These facilities were selected to provide a representative sample for Rhode Island. Statistical indices derived from the sample can be used to estimate statewide measures of patient exposure, organ dose, and other criterion measures of patient exposure associated with x-ray procedures presently included in the NEXT system.

An individual report of each survey was provided to each participating facility after the listings had been properly validated and entered on the NEXT master file.

This report provides selected information based upon the data for the total sample. It is not the purpose of this report to draw conclusions from the information presented.

From the Rhode Island Department of Health, Division of Occupational Health and Radiation Control

JAMES E. HICKEY, *Chief, Division of Occupational Health and Radiation Control, Rhode Island Department of Health*

It is the Agency's hope that the report will provide a basis for discussion of problems and priorities in our efforts to reduce patient exposures from diagnostic x-ray procedures.

The *NEXT* Survey

Each NEXT survey consists of a visit to a diagnostic x-ray facility selected at random from among facilities conducting projections which are included in the NEXT system. At the facility a standard set of information is collected regarding the facility in general and the two most frequent projections conducted on each eligible x-ray machine to a maximum of ten machines. Measurements representative of the technique in use for a patient of average anatomic dimensions are performed on each x-ray machine for the two projections. All of this information is entered on the standard NEXT survey form which is transmitted to the NEXT computer center in Rockville, Maryland. A proof listing of data to be entered on the master file is returned to the state program for verification prior to entry on the master file.

The survey procedures and survey equipment are designed and carefully maintained to minimize surveyor bias and measurement error so that valid reproducible data are obtained from each verified survey entered on the NEXT file. The surveyor attempts to insure that operator and equipment variables are representative of routine practice at the facility. This is sometimes difficult, however, and it is correct to assume that the data reflect "best" practice at the facility rather than routine practice in most instances.

The Sample

A sample was chosen for this initial study in Rhode Island according to the established NEXT sampling procedure. Four categories of diagnostic x-ray facilities were defined as follows: hospitals, private medical facilities, private dental facilities, and other facilities. All facilities in the state as of March 1975 provided the population for sampling. A definite number of facilities from each category was randomly chosen to compose the sample. The final sample consisted of 15 hospitals, 35 private medical facilities, 30 private dental facilities, and 20 other facilities. Data submitted for entry on the master file are identified by code number to maintain confidentiality. The actual facility identification, as well as individual names, are known only to the State Radiation Control Agency.

Information Outputs of the *NEXT* System

The NEXT System has been designed to be flexible in terms of the data which can be accepted and the outputs which can be obtained. As needs and interests change, various parameters and indices are added or deleted from the System. A few outputs are provided routinely by NEXT. Many others are available upon request. The basic outputs include: 1) A complete proof listing for each survey providing all data entered on the Master File; 2) Mean Indices by Projection for the state and for all states for several criterion measures of exposure and dose; 3) Median Indices by projection for the state and for all states for several criterion measures of patient exposure and dose; 4) Summary lists of data by projection for surveys performed during defined time periods. Outputs by state are available only to the State Program involved.

Criterion Measures of the *NEXT* System

Entrance Skin Exposure. A major criterion measure estimated by the NEXT System is Entrance Skin Exposure (ESE). Figure 1 gives a summary of this measure for the state sample by projection. In reviewing this and other information it is important to keep in mind that only the two most frequent projections conducted on each unit are included in the data. Therefore, the indices for some of the less frequent projections are likely skewed towards dedicated equipment or specialty practices. For example, the data on Retrograde Pyelogram includes mostly private urology practices. This occurred because the procedure was invariably not among the two most frequent projections for hospital and private radiology equipment. In this sense the data may not provide a good estimate of the mean and median indices for certain projections. The Agency in future NEXT studies intends to focus on individual procedures to obtain better data for the less frequent procedures.

Information for all states data have been included in Figure 1 where there is a substantial difference from Rhode Island

FIGURE 1

SKIN ENTRANCE EXPOSURES BY PROJECTION
(Milliroentgen)

Projection	#Of Units Surveyed	Weighted* Mean	Weighted* Median	Minimum Recorded	Maximum Recorded
Retrograde—R.I.	8	1350	924	485	4808
Pyelogram—All States. (A/P)	243	747	528	83	4808
Lumbar—Sacral Spine ..... (A/P)	38	747	635	445	1549
Abdomen (KUB) (A/P)	54	633	489	99	4852
Feet (D/P)—R.I.	15	619	220	49	1377
All States..	184	319	155	1	2435
Thoracic Spine (A/P)	3	517	474	474	787
Dental (B.W. Post)	47	373	308	156	1675
Dental (periapical)	40	321	258	123	1675
Skull (Lateral)	29	314	218	67	800
Cervical Spine (A/P)	15	179	153	110	491
Chest (P/A)	107	23	15	8	652

*Values are weighted by the workload assigned to each unit.

FIGURE 2

SURFACE EXPOSURE INTEGRAL
(Roentgens x Square Centimeters)

Projection	No. of Surveys	Weighted* Mean	Weighted* Median	Minimum Recorded	Maximum Recorded
Retrograde—R.I.	8	1322	893	327	5654
Pyelogram—All States (A/P)	243	637	441	23	5654
Feet (D/P)—R.I.	15	607	163	44	1624
All States..	184	228	85	2	2535
Abdomen (KUB)	54	577	452	82	5655
Lumbar—Sacral Spine ..... (A/P)	38	468	403	108	1473
Cervical Spine (A/P) ..	15	241	63	28	2310
Skull (Lateral)	29	183	139	40	575
Thoracic Spine (A/P)..	3	161	117	117	374
Chest (P/A)	107	31	17	8	652
Dental (B.W. Post)	47	13	11	5	49
Dental (Periapical)	40	11	10	1	266

*Values are weighted for workload assigned to each unit

data. Rhode Island recorded the maximum values on file during the period for two projections — Retrograde Pyelogram and Abdominal (KUB).

Surface Exposure Integral. Another criterion measure utilized by the NEXT System is the Surface Exposure Integral (SEI). This measure combines the ESE in roentgens and the total area of the body exposed in square centimeters. Thus, it reflects a balancing of these two important factors associated with the risk of biological effects from ionizing radiation. Figure 2 provides a summary of this measure by projection.

Since two competing factors are incorporated in this measure, it is not possible on the basis of this measure alone to determine whether the values reflect a dominance of one factor or indicate that there are comparable contributions from both factors. However, the measure does provide a useful comparison of different projections for body surface exposure.

Organ Doses. Figure 3 provides a summary of the organ dose indices determined during the study. If a value does not appear for a particular projection, the value was estimated to be less than 0.5 mrad. As expected, organs which are in or near the primary beam for the various projections incur the higher doses. There are indications from other data that these values can be significantly reduced by lowering ESE and improving collimation. Of special interest are the relatively high thyroid doses incurred during cervical spine and skull projections.

Collimation versus Operator Qualifications. Good practice dictates that the pri-

FIGURE 3

ORGAN DOSES
(MRAD)

Projection	# Surveys	Weighted* Mean	Weighted* Median	Minimum Recorded	Maximum Recorded
		OVARIAN			
Retrograde Pyelogram	8	228	242	115	371
Lumbar Sacral Spine .. (A/P)	38	158	118	29	516
Abdomen (KUB) (A/P)	54	144	135	19	474
		TESTICULAR			
Lumbar Sacral Spine .. (A/P)	38	36	8	—	510
Retrograde Pyelogram (A/P)	8	18	18	6	54
Abdomen (KUB) (A/P)	54	13	8	1	48
		RED BONE MARROW			
Retrograde Pyelogram (A/P)	8	37	44	15	60
Abdomen (KUB) (A/P)	54	24	20	3	80
Lumbar Sacral Spine .. (A/P)	38	24	19	6	92
Skull (A/P)	29	9	9	2	33
Thoracic Spine (A/P) ..	3	9	7	7	21
Cervical Spine (A/P) ..	15	3	2	1	13
Chest (P/A)	107	2	1	—	11
		THYROID			
Cervical Spine (A/P) ..	15	119	112	73	295
Skull (Lateral)	29	72	51	4	246
Thoracic Spine (A/P) .	3	24	14	14	69
Chest (A/P)	107	1	—	—	5

*Values are weighted for workload assigned to each unit.

FIGURE 4

COLLIMATION BY OPERATOR CATEGORIES

Projection	Column 1 Percentage of Workload	Column 2 Percentage of Column 1 with *Poor Collimation	Column 3 Percentage of Well Collimated Workload	Column 4 Percentage of *Poorly Collimated Workload
Chest				
Total	100	33	100	100
PRAC	2	81	1	5
ARRT	84	29	90	75
NONE	14	47	9	20
Skulls				
Total	100	53	100	100
PRAC	<1	0	0	0
ARRT	89	50	95	84
NONE	11	78	5	16
Abd. & Retro.				
Total	100	43	100	100
PRAC	3	50	3	3
ARRT	86	47	81	94
NONE	11	9	16	3
Spines (All)				
Total	100	14	100	100
PRAC	1	0	0	0
CHIRO	4	44	3	12
ARRT	91	13	92	84
NONE	4	13	5	4
All Projections				
Total	100	34	100	100
PRAC	2	64	1	4
CHIRO	<1	44	1	1
ARRT	86	32	89	82
NONE	12	39	9	13

*BA/FA≥1.10 considered to be poorly collinated.

FIGURE 5

E.S.E. vs. OPERATOR QUALIFICATIONS
FOR DENTAL INTRAORAL PROJECTION

Operator Qulaifications	Column 1 % Workload By Category	Column 2 % Workload With High E.S.E.*	Column 3 % of High E.S.E. Worlkload	Column 4 % of Acceptable Workload
Total	100	46	100	100
PRACT	67	33	49	83
LDH	3	100	6	0
CDA	11	100	24	0
NONE	19	52	21	17

*E.S.E. Greater Than Maximum Acceptable Exposure from D.E.N.T.

mary x-ray beam be carefully restricted to the area of clinical interest to avoid unnecessary exposure to other areas of the body. This procedure is known as collimation and is, except for dental intraoral projections, greatly dependent upon the care exercised by the operator in adjusting the equipment. As such, a measure of collimation effectiveness is an important indicator of operator performance relating to radiation protection.

The criterion measure provided by the NEXT system as an indicator of collimation is the ratio of the Beam Area to the Film Area (BA/FA). A ratio of one or less indicates restriction of the beam to the image receptor in use. For the purpose of deciding the acceptability of collimation on individual surveys, the Agency has extended the upper limit for proper collimation to a BA/FA ratio of 1.10. This allows for slight measurement error and minor maladjustment of equipment. It should be noted that, although this criterion measure is used for convenience, it is often possible for the operator to restrict the beam to an area much less than the film area.

Figure 4 provides a summary of information on collimation and operator categories which was derived by applying the 1.10 limit for BA/FA to the NEXT data. The figure expresses the successfulness of various groups of operators in applying proper collimation technique in the form of percentage values. Column 1 gives percentage workload figures for the various groups as a basis for comparison of the overall impact of their practices. Column 2 must be read as percentages of poor collimation within the group itself. For example, Column 1 indicates that 2 per cent of chests (P/A) are performed by practitioners, and Column 2 indicates that 81 per cent of these are improperly collimated. Column 3 gives a measure of the contribution of each group to the procedures being conducted with proper collimations. For example, one per cent of all well-collimated chests (P/A) are conducted by practitioners. Column 4 presents the corollary values for poorly collimated beams. For example, 5 per cent of all poorly collimated chests are conducted by practitioners.

Aside from the interesting comparisons which indicate that collimation can be greatly improved in almost every instance, the major finding in Figure 4 is the dominance of Registered Radiologic Technologists (RRT) in every category. The estimates indicate that these technologists account for 89 per cent of well-collimated beams and 82 per cent of poorly collimated beams. The analysis indicates that one-third of these projections are performed with inadequate collimation.

Dental Exposures versus Operator Qualifications. Criteria of acceptable Entrance Skin Exposure are presently available for dental bitewing and periapical projections. These criteria are variable according to the kVp used for the exposure. Those interested in the details of dental ESE criteria should contact the Rhode Island Radiation Control Agency for further information. Such criteria are not yet available for other projections.

These criteria were applied to the dental ESEs of the sample, and Figure 5 was prepared to express the results. Column 1 gives the percentage of dental workload attributable to each of four operator categories. Column 2 gives the percentage of the Column 1 workload conducted with an unacceptably high ESE. Column 3 gives the percentage of contribution of each group to the projections being conducted with acceptable ESEs. Column 4 gives the percentage contribution of each group to the projection being conducted with unacceptably high ESEs. This figure indicates the predominance of practitioners as operators of dental machines. This figure also reflects a poor compliance with exposure guidelines, which is somewhat disappointing in view of the extensive efforts of the Agency during recent years to gain voluntary compliance with these guidelines. The poor performance of Licensed Dental Hygienists and Certified Dental Assistants may not be an accurate estimate due to the small number represented in this sample. However, these results do point to need for further efforts to encourage exposure reduction and to integrate exposure reduction practices into training programs for dental personnel.

Summary

This report provides information relating to the patient exposures and doses received during diagnostic x-ray procedures in Rhode Island. The information presented is based

upon data collected during the state's participation in the Nationwide Evaluation of X-ray Trends program. Similar studies are planned at appropriated intervals in the future to follow trends in practice and exposures related to diagnostic x-ray. In the interim, NEXT activities will focus on specific projections and types of facilities better to assess the indices of exposure related to these. Such projects are presently underway in the areas of podiatric, mammographic, and cephalometric procedures. Future studies are planned for spinal projections and abdominal procedures.

Acknowledgement

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Department of Health
75 Davis Street
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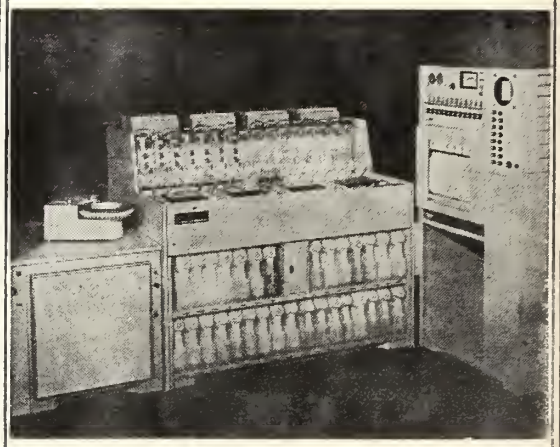

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The Extensor Tendon Injuries And The Treatment

Extensor Tendon Injuries Have A Good Prognosis With Appropriate Management

By Harilaos T. Sakellarides, MD

Injuries of the extensor tendons of the fingers are common due to their superficial location. Repair of extensor tendons in general has a better prognosis than that of flexors since there is no fibro-osseous tunnel to encourage the formation of adhesions.

Extensor tendon injuries may be divided into two groups, closed and open.

I. Closed Injuries

A. Rupture of the tendon over the distal joint (Mallet or baseball finger)

Rupture of an extensor tendon over the distal joint of the finger is a common injury. It may occur from a minor trauma and is just as liable to occur in a machine shop or on a playing field as in the home. Rupture of the tendon from the distal phalanx results from a stabbing motion of the finger, producing a sudden flexion of the terminal joint while the finger is actively extended. As a rule only one finger is affected in this situation. The patient's attention is instantly concentrated on the posterior aspect of the distal joint, and the chief complaint is local pain. Active extension of the distal joint of the finger is not possible, with a resulting mallet finger deformity. This injury could either be an avulsion of the tendon from the base of the distal phalanx or avulsion of a fragment of bone with the tendon attachment from the base of the distal phalanx.

Early Cases. If the patient is seen early, within the first three to four weeks from the day of the injury and x-ray examination reveals no avulsion of a large fragment of bone from the base of the phalanx, the proper treatment is immobilization of the distal joint in slight hyper-extension. Immobilization of the distal joint for approximately six weeks can be accomplished by external or internal splinting. External splinting with splint or plaster cast has to be changed at very frequent intervals. Since the splints usually become loose, this is not in my opinion a very reliable method of treating mallet fingers. While I have seen a number of mallet fingers treated by this method and have tried it myself on many occasions, the results have been disappointing. An alternate form of treatment by internal splinting consists of insertion of a thin Kirschner wire from the tip of the finger through the middle phalanx, holding the distal joint in 5 degrees of hyperextension (Figs 1a and 1b). The finger is additionally immobilized in a small aluminum splint that extends from the tip of

HARILAOS T. SAKELLARIDES, MD, *Assistant Clinical Professor, Boston University School of Medicine, Boston, Massachusetts*

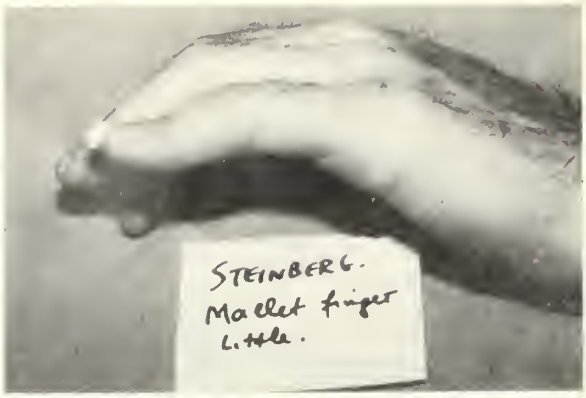

Figure 1A: This patient injured the little finger while playing football and ruptured the extensor tendon over the distal joint. Patient was seen three weeks following injury. A K-wire was inserted, as it is shown.

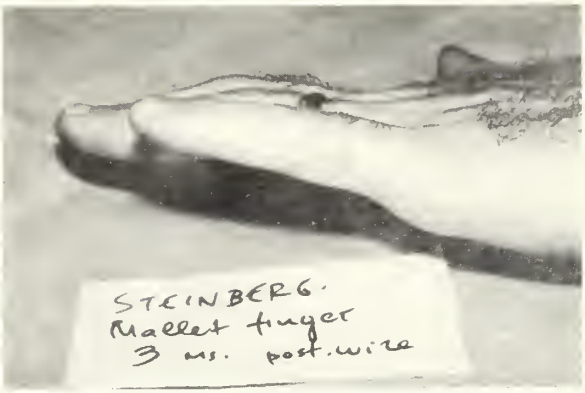

Figure 1B: The fifth finger of the same patient is illustrated three months from removal of K-wire; full active extension is demonstrated.

Figure 2A: This photo shows the ring finger of a 25 year old male, eight months following a baseball injury. A typical mallet finger is seen.

Figure 2B: The same finger is illustrated at the completion of the open repair; pull-out wire suture and K-wire for immobilization.

the finger to the base of the middle phalanx. Immobilization is maintained for approximately six weeks, following which mobilization of the joint is initiated. Since vigorous active flexion of the distal joint should be avoided, partial splinting is necessary for another two to three weeks. When a large fragment avulsed from the base of the distal phalanx cannot be accurately reduced by manipulation and maintained in position by keeping the distal joint extended, open reduction is indicated. The fragment is placed in anatomical position and held with a pull-out wire type of suture. A Kirschner wire is used for an internal splint.

Late Cases. If the patient is first seen four weeks or more after the original injury (Fig 2a) and the disability is marked, particularly if the index or middle finger is involved, an operation may improve the situation, although there may be some limitation of flexion. The operation for this type of injury is carried out through a lazy-S type of incision. The extensor tendon is exposed, scar tissue is removed, and the tendon is reattached to the base of the distal phalanx with a pull-out wire suture. The joint is held in slight hypertension with a Kirschner wire (Fig 2b). The Kirschner wire is removed after six weeks, following which gradual mobilization of the finger is undertaken.

B. Rupture at the proximal joint (Boutonniere Deformity)

This condition also involves a sudden injury to the finger while the proximal joint is in extension and can result in rupture of the central part of the extensor tendon. In typical deformity the proximal joint is held in flexion and the distal joint in extension. Although this deformity is at first not severe, the lateral bands are in time displaced toward the volar aspect, and the deformity is

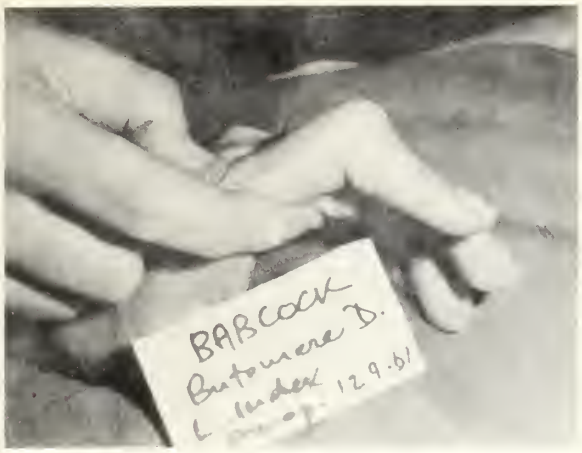

Figure 3A: This is demonstrating a Boutonniere Deformity of the index finger of one year duration. The patient complained of pain and weakness.

Figure 3B: This is illustrating the type of repair used to reconstruct the exterior.

accentuated. Eventually a marked degree of flexion contracture is produced at the proximal joint with marked hyperextension of the distal joint (Fig 3a).

Early Cases. If the patient is seen soon after the injury, a splint is used to hold the involved finger in extension for approximately five weeks, but splinting is often not satisfactory in maintaining full extension in the proximal joint. Therefore, it has been the author's practice to insert a No. 35 Kirschner wire from the base of the middle phalanx into the proximal phalanx. This holds the proximal joint in full extension. It is held thus for approximately six weeks. The wire is then removed, and active exercises begin.

Late Cases. If the rupture is many weeks old, an open repair is required. The joint is approached through a dorsal flap incision. The extensor tendon is exposed, scar tissue is removed, and the tendon is sutured to the base of the middle phalanx using a No. 3-0 Mersilene® suture (Fig 3b). The lateral bands are mobilized dorsally, and sutured to the central slip. The proximal joint is then immobilized in extension by a fine Kirschner wire inserted from the middle phalanx into the proximal phalanx. This is removed approximately six weeks later, and gentle mobilization of the joint is initiated. Partial immobilization of the proximal joint in extension with an aluminum finger splint is maintained for an additional two to three weeks.

C. Rupture of the Extensor Pollicis Longus

With this injury the patient feels a snapping sensation over the dorsum of the thumb, and is unable to extend the terminal joint. Generally, when there is a spontaneous rupture of the extensor pollicis longus, the tendon has attritional changes from friction against the bones over the dorsum of the wrist, usually at Lister's tubercle.

Old healed fractures of the lower end of the radius may at times cause rupture of the tendon by rubbing against the bony callus. If the patient is seen shortly after the injury, that is within the first week or ten days, repair of the tendon may be attempted, provided the tendon appears to be in good condition. Usually the tendon is attenuated and degenerated, requiring a tendon transfer. The extensor proprius tendon of the index finger is divided at the base of the proximal phalanx, rerouted, and sutured to the peripheral portion of the extensor pollicis longus. When the injury is old, tendon transfer is the method of choice. Following operation, the thumb is immobilized in extension for approximately five weeks, after which gentle mobilization of the joints is begun, while the thumb is still protected from excessive flexion by a splint for an additional two to three weeks.

II. Open Injuries

Open injuries or lacerations of the extensor tendons are considered in four sections according to the anatomic site of trauma. Very often, although the laceration of the skin may seem minimal, the deep structures are more extensively involved.

A. Mallet Finger (Injury over the distal joint or the middle phalanx)

This portion of the finger is very likely to be cut with such an injury. The patient has no doubt that a tendon has been divided, because the distal joint, although free of pain, cannot be extended. The involved finger has the typical deformity of a "mallet" finger with the distal phalanx in flexion. The treatment of this injury begins with careful debridement of the skin edges and cleansing of the wound with saline. The tendon is then repaired with interrupted sutures of 4-0 and 5-0 Mersilene® sutures. The finger is immobilized with an aluminum splint for approximately five weeks with the distal joint in extension. If the tendon suture is under even slight tension, a fine Kirschner wire should be inserted from the tip of the finger into the middle phalanx, holding the distal joint in extension. When the patient is seen several days or weeks after injury, a secondary repair of the tendon should be performed as soon as possible. The scar tissue is excised, and the tendon end mobilized and sutured to the distal end. If the laceration is close to the base of the distal phalanx, the tendon is sutured to the base of the distal phalanx with a pull-out wire suture.

B. Boutonniere Deformity (Injury at the proximal joint)

The extensor tendon divides into three bands over the proximal phalanx. It is the central portion that is usually lacerated following an open injury over the proximal joint. Active extension is lost, and the joint may become irritable. The joint is swollen in a fusiform manner by capsular and periarticular thickening. A joint so affected may be troublesome for a long time and may never recover fully. The deformity has a characteristic appearance with flexion at the proximal joint and extension at the distal joint.

Early Cases. The treatment of a freshly incised wound over the proximal joint consists of suturing the capsule and the tendon with No. 4 Mersilene® sutures. The proximal phalangeal joint is held in extension with a Kirschner wire, which is removed approximately five to six weeks later. If the injury is old and the patient disabled, which is usually the case, reconstruction of the extensor tendon should be carried out. Scar tissue is removed, and the tendon is inserted into the base of the middle phalanx.

Late Cases. If the injury is very old, that is more than a year or two, the central slip will have retracted so far proximally that the tendon end cannot be brought down to be sutured to the base of the middle phalanx (Fig 4a). In this situation, if passive motion is satisfactory, a tendon graft, or preferably the radial lateral band, is passed through a drill hole at the dorsum of the base of the middle phalanx (Fig 4b). This bridges the gap between the proximal portion of the tendon and the base of the middle phalanx. It is then sutured to the central slip. As previously described, the proximal joint is held in extension with a Kirschner wire. This is removed approximately six weeks later. If the joint has poor motion, fusion of the joint will be required.

C. Injuries Over the Dorsum of the Metacarpophalangeal Joint

With this injury, the finger is held in flexion at the metacarpophalangeal joint, and the patient is unable to extend it. If the laceration is fresh, an end-to-end anastomosis of the extensor tendon is performed using No. 4 Mersilene® sutures. Following the repair the involved finger alone is immobilized with the metacarpophalangeal joint in neutral position, and the interphalangeal joints in slight flexion.

D. Injuries Over the Dorsum of the Hand and Wrist

Injuries that occur over the dorsal surface of the hand vary from simple lacerations caused by knives to injuries by machinery which involve not only damage to the skin, but division of the tendons and fractures of metacarpals. If the injuries are very severe with great loss of skin and extensive damage of the soft tissues, immediate repair of the tendons is not indicated. On such occasions it is advisable to replace the skin loss by skin grafting. The disability that results from an injury to the extensor tendons over this area is loss of extension of the involved fingers at the metacarpophalangeal joints.

If the lacerations appear to be favorable for repair, the skin should be cleaned, the skin edges excised, and the tendons sutured. When the tendons are divided at the level of

Figure 4A: This is a Boutonniere Deformity of sixteen months duration.

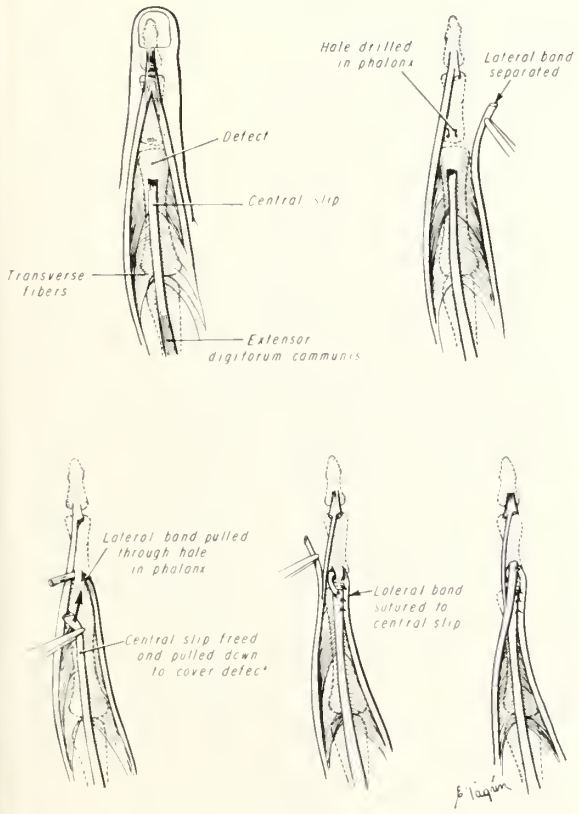
Hole drilled in phalanx
Lateral band separated
Defect
Central slip
Transverse fibers
Extensor digitorum communis
Lateral band pulled through hole in phalanx
Central slip freed and pulled down to cover defect
Lateral band sutured to central slip

Figure 4B: This diagram illustrates the use of the radial lateral band passed through a drill hole at the base of the middle phalanx.

the dorsum of the wrist, the dorsal retinaculum should be excised. If the tendons in this area are sutured without the retinaculum being removed, the sutured tendons become adherent to the underside of the retinaculum and severe limitation of the range of motion will result. In cases where the patient is seen within a few weeks after injury, end-to-end repair of the tendons may still be possible. However, if the delay is greater than two weeks (Fig 5a), the tendon ends retract so far that it is impossible to bring them together. Therefore, tendon grafts are used to bridge the defects (Fig 5b and 5c). Usually the palmaris longus is used, or the plantaris if the palmaris is absent. After repair of the tendons, the fingers are immobilized for five weeks. They are held in neutral position at the metacarpophalangeal joints and in slight flexion at the interphalangeal joints. Only the involved fingers are immobilized. The others are left free to be exercised, although forcible exercises of even the uninvolved fingers should be avoided. The fingers may be somewhat stiff for some weeks, but they regain flexion gradually by gentle active exercises. During this period, the fingers should not be forcibly flexed because the sutured tendons may easily rupture.

Postoperative Management

For all injuries of the extensor tendons careful postoperative care is very important. After 5 to 6 weeks of splinting, partial immobolization with the use of external splints should continue. The patients should be taught to continue the type of gentle active exercises previously carried out. These exercises should consist of gentle flexion of the involved joint or joints. The motion should be gentle so as not to rupture or exert too much traction on the freshly repaired tendon. There is usually a slight drop of the phalanx at the involved joint after the first week of the exercises, particularly after the repair of the mallet or boutonniere deformity. This is due to the stretching of the new fibrous tissue that has formed at the site of the repair. But by using the part-time aluminum splint, particularly at night, this lag eventually disappears, provided the splint is used faithfully. The splint keeps the involved joint in a slight degree of extension. Only by careful and supervised follow-up can one expect to have the best functional results possible.

Summary

The treatment of acute closed injuries of the extensor tendons over the proximal and distal joints consists of accurate immobilization of the involved joints with splints or

Figure 5A: This photo shows the hand of a 22 year old male who lacerated the dorsum of the wrist with a knife three months previously. The extensors of the middle, ring and little fingers were divided.

Figure 5B: At exploration the extensor tendons were found divided and retracted; tendon grafts were used to bridge the defect.

preferably fine Kirschner wires. Open injuries of the extensor tendons should be repaired primarily using nonabsorbable sutures, (Supramid®) with the insertion of the Kirschner wires for temporary immobilization. If the injuries are seen late, reconstruction of the extensor tendons by removal of the scar tissue is recommended. Lacerations of the extensors over the hand and wrist should be repaired primarily. If the injury is several weeks old, tendon grafts are inserted to bridge the gaps. Postoperative care is of great importance.

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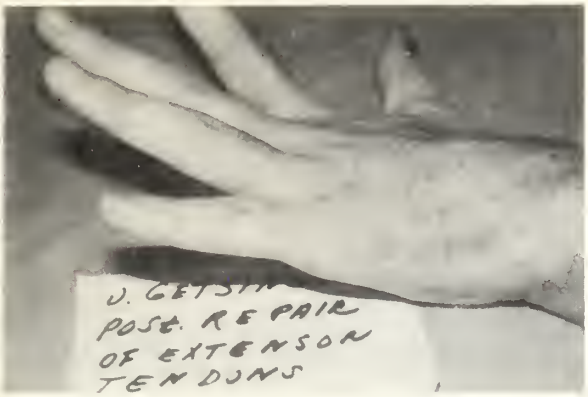

Figure 5C: The same patient's hand one year following the repair with tendon grafts. Full active extension is demonstrated.

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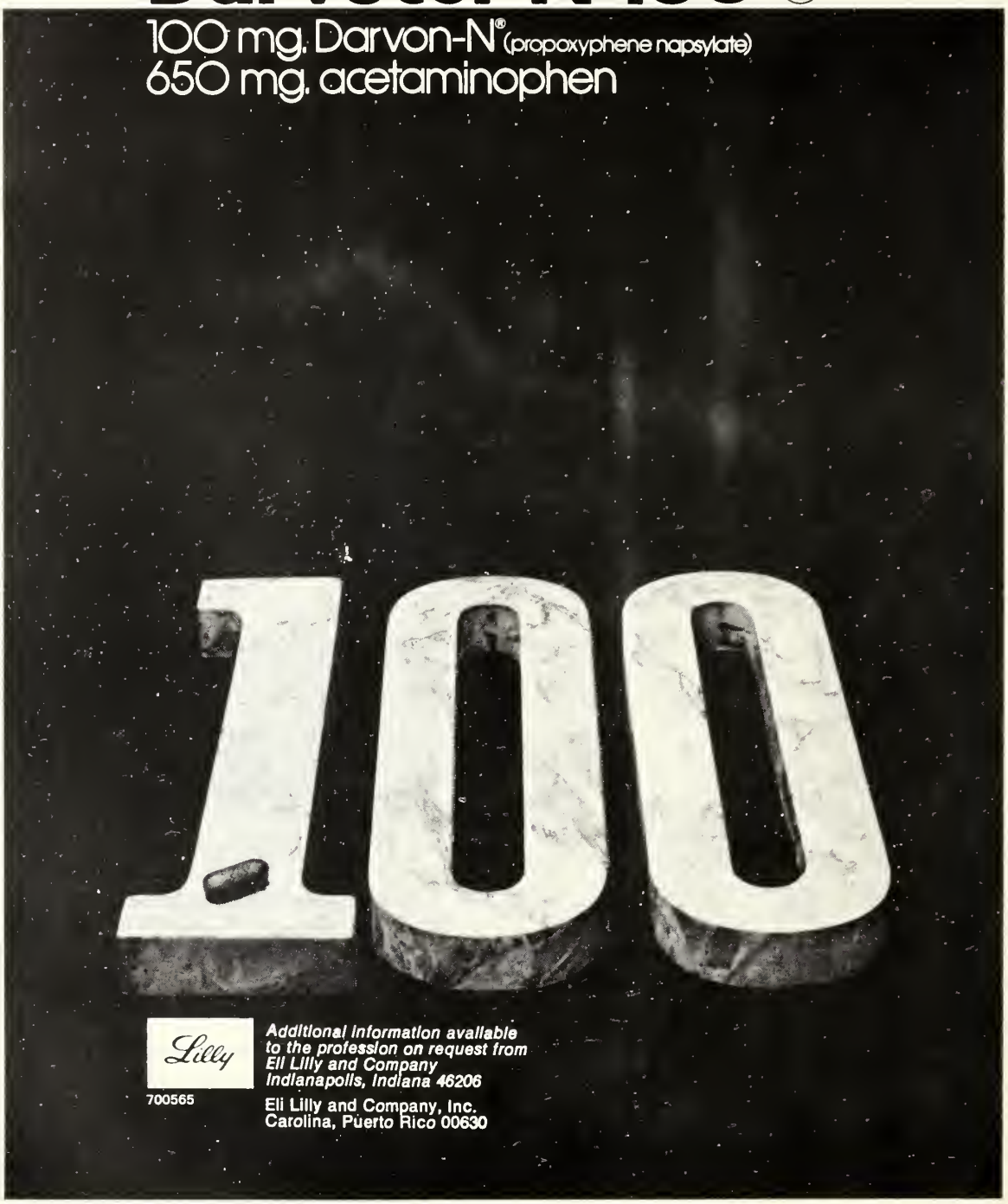

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The Limulus Amebocyte Lysate Test: Present And Future Application

Test Provides A Means Of Detecting And Assaying Gram-Negative Endotoxin In A Variety Of Settings

By Frederick C. Pearson, PhD

The limulus amebocyte lysate test is the most sensitive assay for bacterial endotoxins and routinely detects picogram amounts in solution. Bacterial endotoxins are lipopolysaccharides associated with the outer membrane of gram-negative bacteria. These endotoxins are also known as pyrogens. Since gram-negative bacteria shed significant amounts of these substances into their environment, a positive limulus test serves as an index to gram-negative bacterial contamination. Samples not revealing positive bacteriological culture are frequently found to contain endotoxins when assayed with the limulus test. Therefore the procedure has been widely used by commercial drug companies for in-line quality control of parenteral materials.

Although the detection of gram-negative septicemia, endotoxemia, urinary infections, meningitis, and mastitis is now possible on an experimental basis, the limulus amebocyte lysate assay has not been sanctioned by the Food and Drug Administration for routine diagnostic use.

FREDERICK C. PEARSON, PhD, *Associate Professor of Biology, Rhode Island College, Providence, Rhode Island*

Limulus lysate is extracted from amebocytes, the only circulating blood cell found in the horseshoe crab, *Limulus polyphemus*. The blue blood is collected in endotoxin-free containers, centrifuged, washed, and lysed to release the active material used in the limulus assay. Bang[1] was the first to observe that, when horseshoe crabs were injected with inactivated gram negative bacteria, their blood promptly clotted. Subsequently he demonstrated that the clotting activity did not reside in the cell-free serum, but was associated with the amebocytes.[2]

Endotoxin Assay

The LAL test is simple to perform, rapid and inexpensive. The standard test uses 0.1 ml of test solution which is mixed with 0.1 ml of limulus amebocyte lysate and incubated at 37°C for one hour. The test is conducted in 10 x 75 mm pyrogen-free test-tubes. A firm clot is considered a positive test; however, the reaction can also be graded from 0-4 against the positive control tube. No change in the experimental tube relative to the control is negative (0), and a firm clot which does not run when rotated over 180° is recorded as +4. Other reactions (+ 1-3) are graded on extent of gelation, degree of opacity, number of floccules, and the degree of floccular adherence to the sides of the test-tube. A

negative control should also be used employing 0.1 ml of pyrogen-free water and 0.1 ml of lysate.

Currently the most widely used endotoxin assay employs the tube-test, which can serve as a qualitative test when a single sample, generally undiluted, is tested or a quantitative assay when a number of sample dilutions are tested. In the latter case one must know the titer of the LAL being used in order to determine the endotoxin of the test solution. If the endpoint of a certain lot of lysate were 0.1 ng/ml and the highest dilution of the test solution which gave a positive test were 1:100, then the concentration of endotoxin in the sample would be 10 ng/ml (0.1 X 100).

Although the tube test is capable of detecting picogram amounts of endotoxin, a spectrophotometric determination produces a greater degree of accuracy. In this case LAL must be diluted sufficiently so that gelation does not occur. The sample and LAL are thoroughly mixed in a 10 X 75 mm pyrogen-free test-tube, incubated at 37°C for 1 hour, and read at 360 nm in a spectrophotometer. Since the standard curve for endotoxin will vary with each batch of LAL, serial dilutions of endotoxin must be made and a standard curve established for each batch of lysate[3].

A simple slide test has also been used for the detection of bacterial endotoxin[4]. Equal amounts of sample and LAL are mixed on a pyrogen-free slide and read for agglutination (clotting) and flocculation relative to the control. This method is qualitative and has the disadvantage of being easily contaminated, unlike the gelation and spectrophotometric methods. As a result, this method has not become widely accepted.

One of the major problems with the LAL test is the wide range of lysate sensitivity encountered from various commercial sources as well as individual suppliers. A recent study[5] indicated that of six commercial preparations tested against an *E coli* endotoxin sensitivity ranged from 0.3 - 0.03 ng/ml and the quality of the gelation ranged from good to poor. Similar results were found with endotoxins extracted from *S typhosa* , *S marcescens* and *S flexneri*. However, sensitivity to *Pseudomonas* spp ranged from 10 ng/ml endotoxin (Difco) to as high as 500 ng/ml (Associates of Cape Cod). Prices ranged from $0.75 to $3.10 per test when multitest vials were used.

Although the sensitivity of the assay is commonly believed to be effective at pH 6-8, other data indicate that the optimal pH range is 6.8-7.5 and some suggest that highest sensitivity resides between pH 6.9 and 7.2[6]. When monitoring solutions which are strongly acid or basic, they should be adjusted with an appropriate pyrogen-free buffer. In most cases this is not necessary in body fluids. Cerebrospinal fluid which is sanguinous or contains abnormally high levels of protein or high leukocyte counts can inhibit the test. Turbid cerebrospinal fluid should be centrifuged prior to conducting the assay[6]. A number of substances are known to inhibit LAL and include EDTA, presumably due to its ability to sequester divalent cations, heparin, penicillin, and polymixin B[3 7 29].

Work in our laboratory suggests that most antibiotics screened at concentrations approaching therapeutic blood levels do not inhibit the limulus assay, but preliminary results indicate that some tetracyclines may enhance sensitivity.

A number of workers have been concerned about the specificity of the LAL test for endotoxins, Researchers addressing themselves to the question of specificity include, Elin, Wildfeuer, and Suzuki among others. They have found the limulus assay to give positive results in the presence of polynucleotides, peptidoglycan, and synthetic dextran derivatives[8] respectively. Although such reports are found in the literature and endotoxin contamination seems to be ruled out, the overwhelming evidence suggests that the LAL assay serves as a specific test for the detection of endotoxin.

Comparison With Rabbit Test

Several studies have been conducted comparing the LAL assay with the USP rabbit pyrogen test for endotoxin assay (Cooper 1971, Eibert 1972 and Tomasulo 1977). Van Noordwijk conducted a similar study using the rabbit test for pyrogens of the European Pharmacopoeia (1976). Using tritiated endotoxins, Tomasulo[9] demonstrated significant correlation between the limulus lysate assay, fever production in rabbits, and activation of the third component of complement, which leads him to believe that the same active site

of the endotoxin molecule is identified by the three assays.

Currently the USP rabbit pyrogen test is required for the detection of endotoxin in parenteral fluids even though studies indicate the sensitivity of the LAL assay to be as good as the rabbit pyrogen test, and most agree that LAL is several times more sensitive. Not only is the USP rabbit test less accurate than the LAL assay, but it is considerably more expensive for pharmaceutical companies to conduct, requiring rabbitry, environmentally controlled rooms, and elaborate temperature monitoring equipment. Today, most manufacturers of parenteral products are testing amebocyte lysate in parallel with the rabbit pyrogen test to generate data supporting the replacement of the rabbit pyrogen test by the limulus assay.

A recent study conducted by Fumarola[10] found a number of antitumor preparations to contain as much as 50 ng/ml of endotoxin in the case of bleomycin and L-asparginase. Certainly the validity of data generated in studies employing endotoxin contaminated antitumor agents is now subject to caution. There is little question that endotoxins can induce a number of biological reactions, including pyrogenicity, and may exert an enhancement or suppressor activity on the immune system.[11] Fumarola[10] concludes that the LAL assay is capable of detecting smaller amounts of endotoxins than the rabbit pyrogen test and is more appropriate for screening antitumor agents since *in vivo* toxicity encountered with rabbits is eliminated.

Six manufacturers of influenza virus vaccine and the Bureau of Biologics recently undertook a study to assess the endotoxin content in influenza virus vaccines by the use of the LAL test. The assay was found capable of quantitating the endotoxin content in influenza virus vaccines manufactured by current procedures. Twofold dilutions of the products were made and an endpoint determined by the highest dilution yielding a positive reaction or endotoxin equivalents based on a reference endotoxin.[12]

Clinical Applications

Although not sanctioned by the FDA, the LAL test seems well established as a useful tool in the diagnosis of gram-negative meningitis.[13,14,15] Not only will this assay consistently detect meningitis due to all gram-negative bacteria thus far tested, but it has detected endotoxin in culture-negative and gram-stain-negative specimens from patients who had received antibiotic therapy.[16] Due to the rapidity and reliability of this assay, it can be a particularly important adjunct in the early presumptive diagnosis of gram-negative meningitis prior to the availability of bacteriologic data.

Unlike the situation with cerebrospinal fluid, human serum must be treated or diluted to remove a number of inhibitors that interfere with the limulus endotoxin gelation reaction. Several methods have been advanced for dealing with the inhibitors encountered in human sera, but currently none are generally accepted as valid indicators of gram-negative pyrogen in human septicemia or endotoxemia. Levin and coworkers[17] were able to detect endotoxin in the blood of patients with gram-negative sepsis when inhibitors were removed by chloroform extraction for one hour and subsequent dilution of serum. Later Reinhold and Fine[18] removed inhibitors by lowering plasma to pH 4.0 with acetic acid and subsequently buffering to pH 6.2 with dibasic potassium phosphate. Copperstock [19] heat treated serum samples at 100°C for ten minutes and then performed a 1:3 dilution with pyrogen-free water to deal with inhibitors. While these procedures are attractive from the point of view of ease and rapidity, variable results have been obtained, eg apparently some patients have more inhibitors than others and more than one chloroform extraction may be required. A multiple chloroform extraction procedure represents a clear disadvantage compared to the heat-dilution and pH shift methods.

Recent Advances

Fortunately two recent techniques have been developed this year which may increase the reproducability of endotoxin assay in human serum and pave the way to an acceptable, standard limulus assay for endotoxin in humans. Harris and Feinstein[20] found that a recently developed inert polymer, PSI-HAP 100, has a specific affinity for bacterial lipopolysaccharide.

The polymeric bead is incubated with 0.2

ml of whole blood at 37°C for one hour on a vibrator. Subsequently the bead is washed with sterile pyrogen-free saline solution and incubated in a 10 X 75 mm pyrogen-free test-tube with 0.1 ml of LAL for 90 minutes. Gelation is recorded.

Nandan[21] showed that, when varying concentrations of endotoxin are added to a constant amount of limulus lysate, protein is precipitated by endotoxin in a proportional manner. Lowery protein determinations were made on the protein precipitate in unknown samples and the equivalent *E coli* endotoxin concentration determined by standards and negative controls. Endotoxin-precipitable protein was determined after lysing platelets to release endotoxin and then performing chloroform extraction of plasma inhibitors. When this procedure was followed, endotoxin could be detected at levels of 0.195 ng/ml in whole blood and 0.049 ng/ml in platelet-rich plasma. Although this method is somewhat elaborate from the diagnostic point of view, the sensitivity it provides represents a significant increase over that encountered in previous studies. There is general agreement among researchers that the LAL test should not be used for the detection of gram-negative septicemia or endotoxemia until the problem of inhibitor removal is much better understood and a standard test can be followed.

The LAL test has also found experimental application in prediction of gram-negative septic episodes in burn patients,[20] rapid detection of bacteriuria,[22] detection of mastitic milk due to gram-negative bacterial endotoxin,[23] demonstration of endotoxin in gingival inflammation,[24] assay for the microbial quality of ground beef,[25] detection of bacterial endotoxin in drinking water,[26] and the determination of bacterial number and mass in the marine environment.[27]

A more detailed discussion of the use of the Limulus lysate assay for the detection and quantitation of endoxin has been published recently (1977) by Siegel and Nachum.[28]

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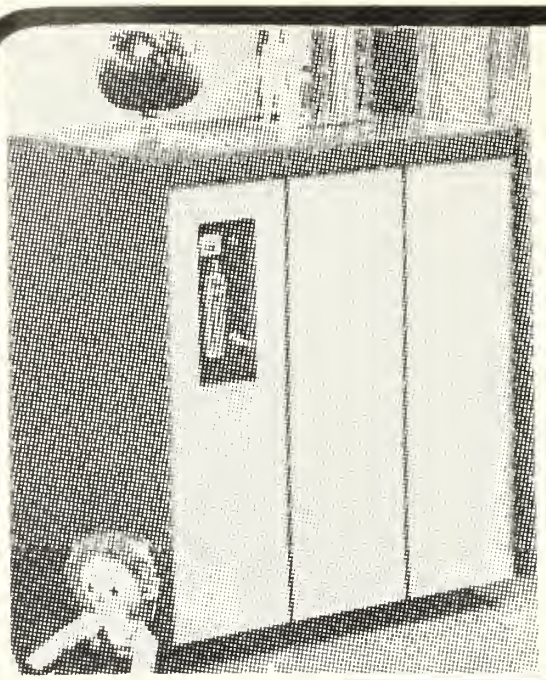

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Supreme Court Acts

On June 29, 1978 the U.S. Supreme Court held that insurance companies can be charged with federal antitrust violations for alleged agreements to sell malpractice insurance to doctors. The Court voted 7-2 to affirm a lower court ruling that seven Rhode Island doctors and six patients could proceed with a suit against St. Paul Fire and Marine and three other companies.

The background of this case was discussed in a special article titled "David and Goliath" by Anthony F. Merlino, MD, which appeared in the *Rhode Island Medical Journal,* Vol. 61, No. 3, March, 1978. Our readers may be interested in the position taken by the St. Paul Companies following the Supreme Court ruling:

"We are disappointed in the U.S. Supreme Court's ruling. However, this was a decision on whether such a suit could even be brought under federal antitrust laws not whether such laws were violated. The original charge by several doctors in this case has yet to be tried and decided. The plaintiffs' allegations will be proven groundless.

"These plaintiffs allege The St. Paul conspired with three other insurance companies in 1975 to fix the terms and conditions of medical malpractice insurance in Rhode Island. This is false. In 1975 we took an independent action nationally in an effort to continue providing doctors and hospitals with malpractice insurance. This action involved introducing a new form of malpractice coverage called "claims-made." The St. Paul developed this form strictly on its own. There was no collusion. The St. Paul now writes claims-made malpractice insurance for over 40,000 doctors across the nation but no longer insures any doctors in Rhode Island, because the claims-made form was not approved by the Rhode Island insurance commissioner.

"Originally, this lawsuit contained four charges. During proceedings in Rhode Island District and Appeals courts, three charges were dismissed from federal action. The only remaining charge is the allegation that The St. Paul agreed with other insurers that they would not accept malpractice insurance from Rhode Island physicians formerly insured by The St. Paul. This is false. The charge will now be tried on its merit and we are convinced our actions will be upheld and the plaintiffs' allegation found to be without merit."

Is Crohn's Disease Transmissable?

Donnelly et al of Dublin, Ireland have presented evidence that suggests the presence of a transmissable factor in Crohn's disease. In the study homogenates of normal human intestine and human Crohn's tissue were injected into the ilea of 11 and 16 rabbits, respectively, while normal saline solution was injected into the small bowel of 13 rabbits as controls. After six months 7 rabbits in the normal human intestine group and 4 rabbits in the Crohn's tissue group showed Crohn-like changes; but 12 months after the injections, all rabbit intestines had reverted to normal.

The addition of ampicillin to the homogenates prevented the appearance of the Crohn-like changes in 12 of 12 rabbits. These results were interpreted by the authors as providing indirect evidence for a transmissable factor in both normal and Crohn-affected human intestine in the etiology of Crohn's disease.

The significance of the paper, published in a respected journal, lies in the fact that

Crohn-like changes have for the first time been produced experimentally in animals. While the prevention of the changes by an antibiotic is on the positive side, the ability of normal as well as Crohn homogenates to produce the changes raises serious questions as to the significance of these findings.

Time will tell whether this is a breakthrough in unravelling the mystery of Crohn's disease or just another experimental curiosity.

Reference

Donnelly BJ, Delaney PV, Healy TM: Evidence for a transmissable factor in Crohn's disease. *Gut* 18:360-363, May 77.

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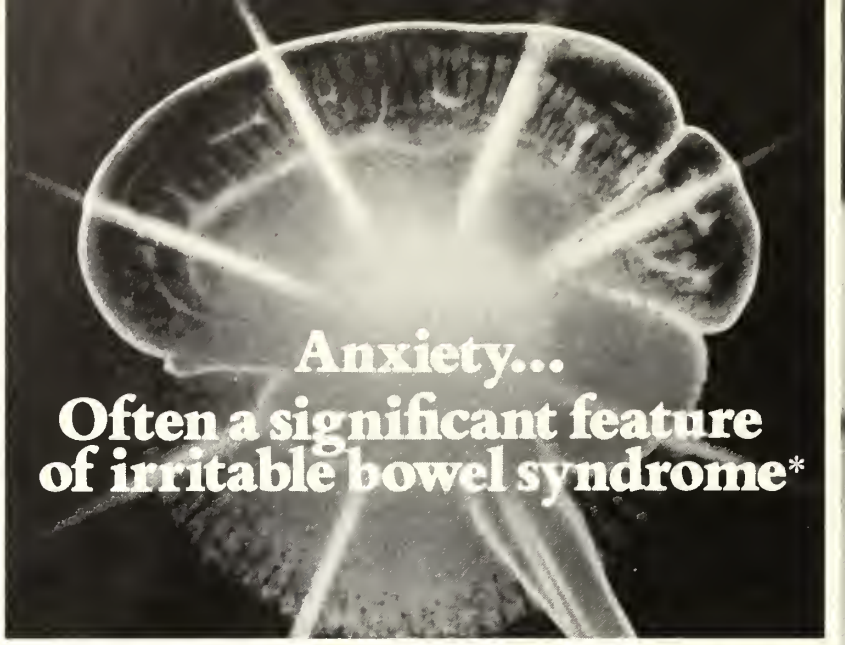
Rhode Island Medical Journal

September, 1978 Vol. 61, No. 9

Semi-Annual CME Calendar

See Insert



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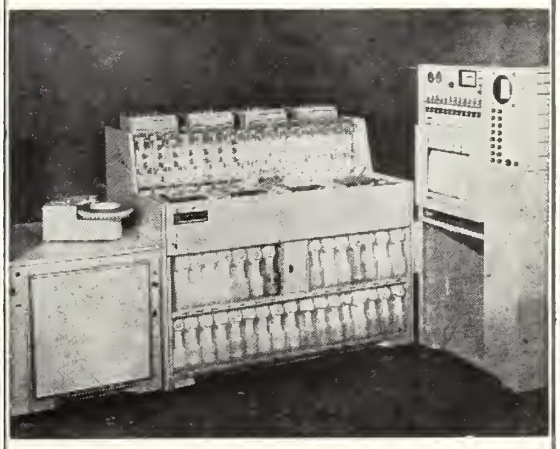

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SEPTEMBER, 1978 VOLUME 61, No. 9

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Continuing Medical Education Calendar of Events

prepared by
BROWN UNIVERSITY
Office of Continuing Medical Education

and
RHODE ISLAND MEDICAL SOCIETY
Continuing Medical Education Committee

FALL, 1978

A MESSAGE TO OUR READERS:

These pages represent a collaborative effort of the Rhode Island Medical Society and the Brown University Office of Continuing Medical Education for the purpose of meeting the needs of the physicians of the State of Rhode Island for a comprehensive listing of continuing medical education activities. This calendar, which will appear twice yearly and is designed to include all of the principal physician education opportunities of our State, will allow doctors to schedule their professional activities in advance and permit greater participation in and benefit from these continuing medical education events. Furthermore, the joint participation by all hospitals, societies, and medical education institutions listed below reaffirms the traditional principle of medical art and science that all advances in understanding and procedure shall be freely exchanged by members of the medical profession.

We have attempted to make this first calendar as comprehensive as possible, but are aware that the list may not be complete. The Spring Calendar, to be published within a few months, will cover all events from January to June of 1979.

Inquiries should be directed to Mrs. Irene Owens, Brown University Office of Continuing Education, 863-3337.

I. SYMPOSIA, COURSES, AND OTHER SPECIAL EVENTS

PEDIATRIC REVIEW COURSE sponsored by the Rhode Island Chapter, American Academy of Pediatrics; Department of Pediatrics, Section of Reproductive and Developmental Medicine, Brown University Program in Medicine; the Rhode Island Medical Society; and the Southeastern New England Pediatric Directors Association. Course will be held once monthly, on Thursdays, October 5, 1978 through June 7, 1979, from 7:30 p.m. to 9:30 p.m. in the Rhode Island Medical Society Auditorium, 106 Francis Street, Providence, RI. Fee is $40.00 for practicing physicians; $20.00 for allied health professionals. Course schedule is as follows:

Thursday, October 5
Dermatology—"Challenging Childhood Dermatosis" by Charles J. McDonald, MD, Professor of Medicine Brown University Program in Medicine

Thursday, November 2
Neonatology—"The Jaundiced Newborn" by Leo Stern, MD, Professor of Pediatrics, Brown University Program in Medicine

Thursday, December 7
Ophthalmology—"The Pupil" by Robert Kinder, MD, Clinical Associate Professor of Surgery, Brown University Program in Medicine

Thursday, January 4
Infectious Diseases—"Update on Antimicrobial Therapy" by Georges Peter, MD, Associate Professor of Pediatrics, Brown University Program in Medicine

Pediatric Review Course (continued)

Thursday, February 1
Hearing and Speech—"Speech and Hearing Deficiencies" by Peter Blackwell, Principal, Rhode Island School for the Deaf

Thursday, March 1
Hematology—"Recent Advances in Pediatric Oncology" by Edwin Forman, MD, Associate Professor of Pediatrics, Brown University Program in Medicine

Thursday, April 5
Allergy—"Food Allergy" by Frank J. Twarog, MD, Assistant Professor of Medicine, Harvard University

Thursday, May 3
Neurology—"The Hyperactive Child" by N. Paul Rosman, MD, Professor of Pediatrics and Neurology, Boston University

Thursday, June 7
Virology—"Recent Advances in Pediatric Viral Disease" by Barry Hanshaw, MD, Professor of Pediatrics, University of Massachusetts

Contact: Doctor Freye, 596-2242 Credit: 1½ hours Category I per session

SYMPOSIUM—"LIFE STRESS AND DEPRESSION," sponsored by Butler Hospital and Geigy Pharmaceuticals, to be held on Sunday, October 15, 1978 from 9:00 a.m. to 5:00 p.m., at the Marriott Inn, Providence, RI. Faculty: Shervert H. Frazier, MD, Psychiatrist-in-Chief, McLean Hospital, Belmont, Massachusetts; Thomas Hackett, MD, Chief Psychiatry, Massachusetts general Hospital, Boston; Herbert C. Modlin, MD, Professor of Community and Forensic Psychiatry, The Menninger Foundation, Topeka, Kansas; Richard H. Rahe, MC, USN, Commanding Officer, Naval Health Research Center, San Diego, California; John J. Schwab, MD, Professor and Chairman, Department of Psychiatry and Behavioral Sciences, University of Louisville Health Sciences Center; Myrna Weisman, PhD, Associate Professor of Psychiatry and Epidemiology, Department of Psychiatry, Depression Research Unit, Yale University School of Medicine; Jack C. Westman, MD, Professor of Psychiatry, University of Wisconsin School of Medicine Registration is at 8:00 a.m.

Contact: Doctor Westlake, 456-3860

COURSE—"THE OFFICE PRACTICE OF PULMONARY MEDICINE," developed by the Rhode Island Hospital and endorsed by the Rhode Island Lung Association. This course is structured to review the major chest symptoms, stressing pathophysiology, relevant office procedure and pharmacologic intervention. Course will be held on Mondays at 7:00 p.m. from October 16 through December 4, at Rhode Island Hospital APC Room 155. Registration deadline is October 1. Fee is $40.00 for all 8 sessions; students and house officers admitted free. Course schedule is as follows:

Monday, October 16
"The Wheezing Patient" by Sidney S. Braman, MD, Director, Pulmonary Division; Assistant Professor of Medicine, Brown University

Monday, October 23
"The Troublesome Cough" by Richard S. Irwin, MD, Associate Director, Pulmonary Division; Assistant Professor of Medicine, Brown University

Monday, October 30
"The Office Evaluation of Chest Pain" by David O. Williams, MD, Director, Cardiovascular Laboratory; Assistant Professor of Medicine, Brown University

Monday, November 6
"The Patient with Dyspnea" by Sidney S. Braman, MD

Monday, November 13
"Lung Function Testing of the Ambulatory Patient" by William M. Corrao, MD, Director, Pulmonary Function Laboratory; Instructor in Medicine, Brown University

Course—"The Office Practice of Pulmonary Medicine" (continued)

Monday, November 20
"Fever—the Office Approach to Pneumonia" by Richard S. Irwin, MD

Monday, November 27
"The Evaluation of Pulmonary Disability" by Paul J. Conley, MD, Medical Advisor and John R. Kenney, Assistant Administrator, Disability Determination Unit

Monday, December 4
"Preventive Chest Medicine" by Herbert P. Constantine, MD, Director Ambulatory Services; Associate Professor of Medicine & Community Health, Brown University

Contact: Pulmonary Division
Rhode Island Hospital
277-5306

Credit: 12 hours Category I—AMA
12 hours—AAFP

THE BRADLEY FORUM—"ANTI-CHILD BIAS," sponsored by Bradley Hospital and the Brown University Program in Medicine, to be held Thursday, October 19 from 1:00 p.m. to 5:30 p.m. and Friday, October 20, from 9:00 a.m. to 12:30 p.m., at the Sheraton Islander Inn, Newport, RI. The program will consist of lectures, workshops, and open discussions. Brown University Program in Medicine Workshop Leaders will be: Lucille Newman, PhD, Assistant Professor of Community Health (Research), with joint appointments in Pediatrics and Anthropology; John O'Shea, MD, Assistant Professor of Pediatrics; Leo Stern, MD, Professor and Chairman, Section of Reproductive and Developmental Medicine (Pediatrics). Guest faculty will be David Bakan, PhD, Professor of Psychology, York University; Henry P. Coppolillo, MD, Professor of Psychiatry and Director of Child Psychiatry, University of Colorado; Robert L. Stubblefield, MD, Clinical Professor of Psychiatry, Yale University, and Medical Director, The Silverhill Foundation

Contact: Doctor Hayden, 434-3400

Credit: 7½ hours Category I

THE FIFTEENTH ANNUAL MAURICE N. KAY PEDIATRIC SYMPOSIUM presented by the Department of Pediatrics, Roger Williams General Hospital entitled "Current Advances in Pediatrics," Wednesday, November 1, from 9:30 a.m. to 3:30 p.m., at the Marriott Inn, Providence, RI. Registration and coffee at 8:15 a.m. Moderator will be Leo Stern, MD, Professor and Chairman of Pediatrics, Section of Reproductive and Developmental Medicine, Brown University Program in Medicine. Program will include: "The Diagnosis and Management of Childhood Hypertension" by Jennifer Loggie, MD, Professor of Pediatrics, University of Cincinnati and the Children's Hospital Research Foundation; "The Continuous Search for Infectious Agents involved in Congenital Malformations and the TORCH Syndrome" by Andre Nahmias, MD, Professor of Pediatrics, Chief, Infectious Diseases and Immunology, Professor of Pathology, Associate Professor, Preventive and Community Health, Emory University School of Medicine; "The Physiological Basis for the Management of Hyaline Membrane Disease" by Mildred Stahlman, MD, Professor of Pediatrics, Vanderbilt University School of Medicine; "Nutritional Problems in Childhood" by Myron Winick, MD, R.R. Williams Professor of Nutrition, Professor of Pediatrics, Director, Institute of Human Nutrition, Director, Center for Nutrition, Genetics and Human Development, Columbia University College of Physicians and Surgeons

Contact: Mrs. Carol Holscher, 456-2350

Credit: 4½ hours Category I

II. REGULARLY SCHEDULED HOSPITAL LECTURE SERIES

KENT COUNTY MEMORIAL HOSPITAL Medical Education Conferences through December, 1978. All sessions will be held in the Doctors Auditorium, Fridays at 11:30 a.m. Schedule is as follows:

Friday, September 15
"Hematological Malignancies—their treatment and followup" by Bishnu J. Rauth, MD

Friday, September 29
"Blood Lipid Abnormalities and Atherosclerosis, Part II" by Peter Herbert, MD, Associate Professor of Medicine, Brown University Program in Medicine, and Director, Division of Clinical and Experimental Atherosclerosis, The Miriam Hospital

Friday, October 6
"A Case of Pulmonary Edema—not all is routine" (patient presentation)

Friday, October 27
"Current Concepts in the Treatment of Hypertension" (Boeringer-Ingelheim sponsoring)

Contact: Doctor Lamb, 737-7000 Ext. 304

THE MEMORIAL HOSPITAL Selected Topics in Internal Medicine and Family Practice through December, 1978. All sessions will be held in Nurses Auditorium on Mondays at 7:30 p.m. Schedule is as follows:

Monday, October 16
"Infections in Children" by Hardy Meade, MD, Chief, Pediatric Infectious Disease, Professor of Pediatrics, Associate Professor of Medicine, Tufts University School of Medicine

Monday, October 23
"Diagnosis and Treatment of Urinary Tract Infection and Urethritis" by Stephen H. Zinner, MD, Associate Professor of Medicine, Brown University Program in Medicine

Monday, October 30
"Gram Negative Bacteremia" and "Mycoplasma Infections" by Michael Barza, MD, Associate Professor of Medicine, Attending Physician, Tufts-New England Medical Center Hospital

Monday, November 6
"New Antibiotics" and "Anaerobic Infections" by John Bartlett, MD

Monday, November 13
Topic to be decided

Monday, November 20
"Disorders of Parathyroid Functions" by John Tucci, MD, Associate Professor of Medicine, Brown University Program in Medicine

Monday, November 27
"Thyroid Function Tests: Clinical Applications" by Louis Braverman, MD, Professor of Medicine & Physiology, Chairman, Division of Endocrinology & Metabolism, University of Massachusetts Medical School

Monday, December 4
"Thyroid Disease in Children" and "Growth Disturbances" by Boris Senior, MD

Monday, December 11
"Controlled Anterior Pituitary Secretions" by Seymour Reichlin, MD, Chief of Endocrinology Division, New England Medical Center Hospital, and Professor of Medicine, Tufts University School of Medicine

Monday, December 18
"Diabetes in Children" by Robert Schwartz, MD, Professor of Pediatrics, Brown University Program in Medicine, and Director of Pediatric Metabolism, Rhode Island Hospital

Contact: Libby Bray, 722-6000 Ext. 2142

THE MIRIAM HOSPITAL Grand Rounds Schedule through December, 1978. All sessions will be held in Sopkin Auditorium at 11:00 a.m. Schedule is as follows:

Tuesday, September 19
"Fever of Unknown Origin" by Robert G. Petersdorf, MD, Professor and Chairman, Department of Medicine, University of Washington

Thursday, September 28
"Antibiotic Induced Colitis—a New Bacterial Disease" by John G. Bartlett, MD, Associate Professor of Medicine Tufts Medical School; Chief of Infectious Diseases, Veterans Administration Hospital, Boston, Massachusetts

Thursday, October 12
"Urinary Tract Infections" by Donald Kaye, MD, Professor and Chairman, Department of Medicine, Medical College of Pennsylvania

Friday, October 20
Topic to be announced. Mahlon DeLong, MD, Assistant Professor of Neurology and Physiology, The Johns Hopkins University School of Medicine

Thursday, October 26
Topic to be announced. Ralph Snyderman, MD, Professor of Medicine, Associate Professor of Immunology, Chairman, Division of Rheumatic and Genetic Diseases, Duke University School of Medicine

Thursday, November 9
Topic to be announced. Ronald Yankee, MD, Associate Professor of Medicine, Harvard Medical School, and Director of the Blood Component Laboratory, Sidney Farber Cancer Institute

Thursday, December 14
Topic to be announced. Wallace Jensen, MD, Professor and Chairman, Department of Medicine, Albany Medical College, and Physician-in-Chief, Albany Medical Center Hospital

Contact: 274-3700 Ext. 447 Credit: 1 hour Category I per lecture

NAVAL REGIONAL MEDICAL CENTER Brown University Program in Medicine Lecture Series through December, 1978. Sessions are held on the second Wednesday of each month from 3:00 p.m. to 5:00 p.m. Schedule is as follows:

Wednesday, October 11
"Advances in Diagnosis of Common Neurological Disorders" by Pasquale F. Finelli, MD, Assistant Professor of Medicine, Brown University Program in Medicine

Wednesday, November 8
"Fluid and Electrolyte Balance" by Henry T. Randall, MD, Professor and Chairman, Section of Surgery, Brown University Program in Medicine

Wednesday, December 13
"Recent Advances in Immunology" by Stephen R. Kaplan, MD, Associate Professor of Medicine, Brown University Program in Medicine

Contact: Mrs. Sheila Leonard, 841-3352 Credit: 2 hours Category I per lecture

NEWPORT HOSPITAL Medical Education Lectures through December, 1978. Sessions will be Saturdays from 10:00 a.m. to 12 noon, or Tuesdays from 7:30 p.m. to 9:30 p.m. Schedule is as follows:

Saturday, September 9, in A-V Room
"Newer Concepts in the Treatment of Medical and Surgical Patients with Anaerobic Infections" by H. Harlan Stone, MD, Professor of Surgery and Director, Bacteriological Laboratory, Emory University School of Medicine

Newport Hospital (cantinued)

Tuesday, September 26, in A-V Room

"Newer Concepts in the Use of Antibiatic Agents" by Richard H. Parker, MD, Associate Prafessar of Medicine, Howard University School of Medicine, and Chief, Infectiaus Disease Sectian, Veterans Administratian Haspital, Washingtan, DC

Tuesday, October 17, in A-V Room

"Managing the Risks af the Medical and Surgical Chronic Obstructive Pulmanary Disease Patient" by Jahn S. Urbanetti, MD, Assistant Professar af Medicine, Tufts University Medical School, and Assistant Chief af Pulmonary Medicine, New England Medical Center Hospital

Saturday, October 21, in A-V Room

"Hospital Medical and Surgical Audits in Proper Perspective and the Mast Effective Way Ta Da Them" by Stuart Jaffee, MD, Associate Professor of Urolagy, University af Massachusetts Medical Schaal and Chairman, Audit Committee, St. Vincent's Hospital, Warcester, Massachusetts; and Winifred Hayes, RN, MA, Consultant in Nursing Administration and Audit for University of Massachusetts Medical Schaal and Veterans Administration hospitals, and co-authar of JCAH Audit Clinic Manual and Consultant ta the JCAH Audit Workshops

Tuesday, November 28, in Sky Room

"The European Hospice Concept," panel discussion on Haspice movement in New England and Rhode Island, with Bruna Borenstein, MD, Medical Oncologist and Clinical Instructar of Medicine, Brown University Pragram in Medicine; Rabert Canny, MS, Executive Director, Haspice Care of Rhode Island, and faunding member and present member, Baard af Directars af Haspice, New Haven, Connecticut; Marion Humphreys, RN, Director af Hospice Care af Rhode Island Nursing Services; Frank Maguire, PhD, Prafessor of Religious Studies, Salve Regina Callege, Newport, Rhode Island

Saturday, December 9, at Clarke Cooke House Restaurant

"Infectious Diseases" by Louis Weinstein, MD, Prafessar of Medicine, Harvard Medical Schaal, and Physician, Peter Bent Brigham Hospital (Luncheon fallowing lecture, 12:00 naan ta 1:00 p.m., is $7.00)

Cantact: Mrs. Elizabeth Cranstan, 846-6400, Ext. 445 Credit: 2 haurs Categary I per lecture

ROGER WILLIAMS GENERAL HOSPITAL Pediatric Teaching Raunds Schedule thraugh December, 1978. Sessions will be held in Kay Auditorium from 10:30 a.m. ta 12 naan. Schedule is as follows:

Friday, September 29

"Current Status af Bacterial and Viral Vaccines" by Donald N. Medearis, Jr., MD, Chief, Children's Service, Massachusetts General Haspital

Friday, October 13

"Diabetes Mellitus—A New Laak" by Marvin Carnblath, MD, Special Assistant ta the Scientific Directar, NICHD, National Institutes af Health, Bethesda, Maryland

Friday, December 8

"Some Gynecologic Problems of the Adolescent" by Janet W. McArthur, MD, Professar of Ob/Gyn, Harvard Medical Schaal, and Gynecalagist, Massachusetts General Haspital

Cantact: Mrs. Carol Holscher, 456-2350 Credit: 1½ haurs Categary I per session

ST. ANNE'S HOSPITAL, Fall River, Massachusetts, Speaker Schedule through December, 1978. Sessians will be held Wednesdays at 8:15 a.m. in Clemmence Hall. Schedule is as follows:

Wednesday, September 13

"Pneumococcal Vaccine and Pneumacaccal Pneumania" by Georges Peter, MD, Assistant Professar af Pediatrics, Brawn University Program in Medicine

Wednesday, October 18

"Infectiaus Diseases" by Sherwaad Gorbach, MD, Chief, Infectiaus Disease Section, Tufts New England Medical Center, and Professor of Medicine, Tufts University Medical School

St. Ann's Hospital (continued)

Wednesday, November 8
"Hyperalimentation" by William P. Steffee, MD, PhD, Director of Clinical Nutrition, Assistant Professor of Medicine, Boston University School of Medicine

Wednesday, December 6
"Staphylococcal Disease" by Richard Parker, MD, Chief, Section of Infectious Disease, Veterans Administration Hospital, Washington, DC

Contact: Mrs. Eileen Pelletier, 1-617-674-5741, Ext. 258 Credit: 2 hours Category I per lecture

VETERANS ADMINISTRATION HOSPITAL, Providence, RI, Neurosciences Seminars through December, 1978. Sessions will be held Wednesdays from 3:30 p.m. to 5:00 p.m. in the 5th floor auditorium, Room 2 (with the three exceptions noted below). Schedule is as follows:

Wednesday, September 27
"Emotional States and Sexual Arousal" by John Wincze, PhD

Wednesday, October 4, in Room 3
"Benzodiazepine Pharmacokinetics" by Richard Shader, MD

Wednesday, October 11
"Recent Research in Aphasia" by Sheila Blumstein, MD

Wednesday, October 18, in Room 3
"Spanish Speaking Families in Transition: Some Mental Health Issues" by Roberto Jiminez, MD

Wednesday, October 25
"CPC: Difficulties Diagnosing Mentally Retarded Patients" by Srecko Pogacar, MD

Wednesday, November 1
"Assessment and Treatment of Social Competency" by James Curran, MD and Peter Monti, MD

Wednesday, November 8
"Development of an Animal Model for the Hyperkinetic Child Syndrome" by Robert Becker, MD

Wednesday, November 15
"Alcoholism: What Is It and Where To Find It" by Robert Johnston, MD and Demmie Mayfield, MD

Wednesday, November 29
"Brain Cutting" by Mary Ambler, MD

Wednesday, December 6
"Dexamethasone Suppression Test in Psychiatry" by Walter Brown, MD and Iris Shuey, MD

Wednesday, December 13, in Room 3
"Pathophysiology of Tardive Dyskinesia" by Daniel Tarsey, MD

Contact: Doctor Daum, 521-1700, Ext. 3435

III. HOSPITAL SPECIAL EVENTS

BRADLEY HOSPITAL

Wednesday, October 18, at 3:00 p.m.
"Psychotherapy with Children" by Henry P. Coppolillo, MD, Professor of Psychiatry and Director of Child Psychiatry, University of Colorado

Contact: Doctor Hayden, 434-3400 Credit: 2 hours Category I

BUTLER HOSPITAL

Friday, October 27, 1:00 p.m. to 5:00 p.m.
Butler Hospital Fall Symposium, "Phobia: Psychological and Pharmacological Treatments" with guest faculty W. Stuart Agras, MD, Stanford University; Isaac Marks, MD, FR, University of London; Charlotte Zitrin, MD, Long Island Jewish-Hillside Medical Center

Contact: Doctor Rosen, 456-3700 Credit: 3½ hours Category I

JOHN E. FOGARTY MEMORIAL HOSPITAL—WOONSOCKET HOSPITAL

Thursday, September 21, at 11:30 a.m., at Fogarty Hospital
"Arthritis in General Practice" by Stephen R. Kaplan, Associate Professor of Medicine, Brown University Program in Medicine

Contact: Mrs. Doris Carriere, 769-2200, Ext. 265

INSTITUTE OF MENTAL HEALTH

Wednesday, November 22, 2:30 p.m. to 4:00 p.m., in "A" Building
"Minor Tranquilizers" by Richard I. Shader, MD, Associate Professor of Psychiatry and Director of the Psychopharmocology Research Lab, Harvard Medical School, and Director of Continuing Education, Massachusetts Mental Health Center

Contact: Doctor Bauermeister, 464-2453 Credit: 1½ hours Category I

MEDICAL CENTER GENERAL HOSPITAL

Thursday, September 14, at 10:30 a.m., in Lab Classroom
"Cimetidine in Acid Peptic Diseases" by Charles Bliss, MD, Chief of Gastroenterology, Boston City Hospital

Contact: Doctor Hassid, 464-1000 Credit: 1½ hours Category I

Tuesday, September 19, at 10:30 a.m., in L.P. Conference Room
"Cholesterol and the Clinician" film and discussion moderated by Samuel Hassid, MD

Contact: Doctor Hassid, 464-1000 Credit: 1 hour Category I

RHODE ISLAND HOSPITAL

Friday, September 22, at 10:30 a.m., in George Auditorium
"Some Recent Advances in the Diagnosis and Management of Muscle Disorders" (in the Combined Pediatric Grand Round series) by Victor Dubowitz, MD, PhD, FRCP, DCH, Professor of Pediatrics, Institute of Child Health and Royal Postgraduate Medical School, University of London

Rhode Island Hospital (continued)

Friday, September 29, 2:00 p.m. to 5:00 p.m. and Saturday, September 30, 9:00 a.m. to 12 noon, in George Auditorium
New England Regional Meeting of the Ambulatory Pediatric Association

Contact: Doctor O'Shea, 277-5106

Friday, October 20, 10:30 a.m. to 12 noon, in George Auditorium
"Cystic Fibrosis" by Harry Schwachman, MD, Professor of Pediatrics Emeritus, Harvard Medical School, Children's Hospital Medical Center, Boston, Massachusetts

Contact: Ms. Celia Almonte, 277-5015 Credit: 1½ hours Category I

Friday, November 10, 8:00 a.m. to 12 noon
"Cervical Spine Injuries" (in a program presented by the Department of Orthopedics; to include case presentations) by Joseph William Fielding, MD, Clinical Professor of Orthopedic Surgery, College of Physicians and Surgeons, Columbia University, and Professor of Orthopedic Surgery, Polyclinic Medical School, New York City

Contact: Mary Games, 277-5663

Saturday, November 18, 9:00 a.m. to 12 noon, in George Auditorium
Symposium, "Alternatives in the Treatment of Primary Breast Carcinoma," sponsored jointly by the Section of Surgery, Brown University Program in Medicine and the Rhode Island Chapter of the American College of Surgeons, with Oliver Cope, MD, Professor of Surgery Emeritus, Harvard Medical School, and Senior Surgeon, Massachusetts General Hospital; Samuel Hellman, MD, Professor and Chairman, Department of Radiation Therapy, Harvard Medical School; Thomas J. Anglem, MD, Surgeon, New England Baptist Hospital and New England Deaconess Hospital, and Associate Clinical Professor of Surgery Emeritus, Boston University Medical School

Contact: Doctor Pitts, 421-4121 Credit: 3 hours Category I

Thursday, December 7, 9:30 a.m. to 12 noon and at 8:30 p.m.; Friday, December 8, 9:00 a.m. to 12 noon; Saturday, December 9, 9:00 a.m. to 12 noon; in George Auditorium
21st Annual Meeting, Department of Orthopedics and Fractures, Rhode Island Hospital. Thursday morning: case presentations; Thursday evening: Danforth Oration, "Resection Arthrodesis of Lesions about the Knee"; Friday morning: case presentations; Saturday: "Resection of Tumors of the Innominate Bone" and other lectures. William Enneking, MD, the Eugene L. Jewett Professor, and Chairman, Department of Orthopedics, College of Medicine, University of Florida, is designated Surgeon-in-Chief Pro Tempore

Contact: Mary Games, 277-5663 Credit: 1 hour Category I per hour of attendance

WESTERLY HOSPITAL

Saturday, November 11, 9:30 a.m. to 3:30 p.m., at Westerly Yacht Club, Watch Hill Road
All-Day Symposium: Part I, Anesthesia—"Anesthesia Considerations in the Cardiac Patient" by Gregory Coughlin, MD, Department of Anesthesiology, Rhode Island Hospital, and "Malignant Hyperpyrexia" by Joseph Ackers, MD, Department of Anesthesiology, The Memorial Hospital; Part II, Pulmonary Problems—"The Evaluation of Pulmonary Symptoms: a pathophysiological approach" by Sidney S. Braman, MD, Assistant Professor of Medicine, Brown University Program in Medicine, and Richard S. Irwin, MD, Assistant Professor of Medicine, Brown University Program in Medicine (Registration is at 9:00 a.m. Fee of $25 includes lunch and coffee break.)

Contact: Mrs. Natalie Lawton, 596-4961, Ext. 280 Credit: 4 hours Category I

Saturday, December 2, 9:30 a.m. to 3:30 p.m., at Westerly Yacht Club, Watch Hill Road
All-Day Symposium: Gastroenterology—"Pathophysiology of Peptic Ulcer Disease and Medical Therapy" by Herbert R. Rakatansky, MD, Clinical Professor of Medicine, Brown University Program in Medicine, and

Westerly Hospital (continued)

Gastroenterologist at Rhode Island Hospital, The Miriam Hospital, and Roger Williams General Hospital (Registration is at 9:00 a.m. Fee of $25 includes lunch and coffee break.)

Contact: Mrs. Natalie Lawton, 596-4961, Ext. 280 Credit: 4 hours Category I

WOMEN & INFANTS HOSPITAL OF RHODE ISLAND

Friday, September 29, at 2:00 p.m. and Saturday, September 30, at 9:00 a.m.

Tufts University Teaching Day. Friday: "Endometrial Cancer—a Preliminary Review of the Women & Infants Hospital Tumor Board Experience" with panel to include Karlis Adamsons, MD, Bertram H. Buxton, MD, John Lathrop, MD, and Stuart Lauchlan, MD; Saturday: "New concepts on the Interrelationship between Diabetes and Pregnancy" with panel to include Karlis Adamsons, MD, Richard Cowett, MD, Charles Kahn, MD, Robert Schwartz, MD, Betty Vohr, MD, and Jack Widness, MD

Contact: Mrs. Beth Vetter, 274-1100, Ext. 324

Saturday, October 28, at 9:15 a.m., in Auditorium

Ob/Gyn Guest Lecturer Program with Doctor Turnbull, Oxford University, England

Saturday, December 16

Ob/Gyn Guest Lecturer Program, "The Clinical Approach to the Surgical Correction of SIU Associated with Uterine Prolapse and/or Pelvic Relaxation" by David Nichols, MD, Department of Ob/Gyn, Buffalo General Hospital

Those interested in attending any of the above listed activities should check with the contact person listed for each event. Many of these programs were scheduled far in advance and it is prudent to verify the information. If no contact person is listed, call 863-3337 for assistance.

Please save these pages for future reference.

BROWN UNIVERSITY

DIVISION OF BIOLOGY AND MEDICINE

Providence, Rhode Island 02912

863-3337

A Message From The Dean

The Role Of The Medical School In Cost Containment

The medical schools of the United States as a group periodically prepare policy statements pertaining to impending health professions legislation. In the past, these policy statements have considered such national problems as the aggregate size of the pool of physicians and the maldistribution of physicians in terms of geography and specialty.

The slowing down or containment of rising costs in virtually every sector of the economy has now become a national urgency. Not surprisingly, cost containment of medical education has arisen as a prominent subject in recent hearings held by various House and Senate Subcommittees. Congress has thus far postponed any relevant legislative recommendation in deference to their assumption that some cost containment proposals will eventually be initiated by the medical schools of the United States. And in recognition of this, the Association of American Medical Colleges, this year, has given cost containment in medical education its highest priority. (The AMA Commission on Cost Containment has already made certain declarations: namely to maintain the physician supply at its present level; to develop courses in the economics of health care to be placed within the curriculum of each medical school; to encourage price consciousness on the part of physicians, particularly in terms of clinical laboratories and radiographic and other ancillary services; to conduct research toward the establishment of cost-saving innovations; to emphasize, to a greater degree than has been done in the past, health and patient education programs in the area of preventive medicine.)

Cost containment in medical education has two aspects: first, the containment of the total cost of producing a well-qualified physician; and second, the teaching of cost containment to medical students and resident physicians.

With regard to the first of these aspects, a committee study on U.S. medical education reported earlier this decade that the total yearly cost per student (in 1972) ranged from $16,300 to $26,400 with a mean cost of $19,800. (Tuition, typically, accounted for less than one-fourth of this cost.) Fragmentary data for 1977 suggests a mean cost of $31,000 per year, representing an average yearly rise of about 11 per cent. Unfortunately, no well-defined methodology is available to analyze such costs on a nationwide basis since most United States medical schools are part of far larger economic enterprises which also provide varying degrees of health care (often of a very complex character) as well as engage in extensive biomedical research programs; the typical U.S. medical school also fulfills a variety of educational functions including graduate school education and major teaching commitments in undergraduate, dental, and allied health professions schools. The complexity and diversity of mission of the American medical schools have surely increased still further in these last few years. Some medical schools, such as Brown, have clearly defined boundaries; others are indefinably set into an educational syncythium. A more meaningful and uniform accounting procedure is therefore needed to dissect out of such complex health science center operations the actual cost of educating each medical student. Far more reliable information is therefore needed

before we can state that too little or too much money is expended on undergraduate and graduate medical education.

The second aspect (i.e., the teaching of cost containment to medical students and resident physicians) should not be underestimated. The frugal use of our health care resources will clearly have a far greater impact upon the nation's economy than any change in the cost of educating physicians since medical education represents a small fraction of our health care expenditures.

While it is unlikely that a course in medical economics, inserted randomly somewhere in the curriculum, would have much effect upon the conservative use of professional resources by future physicians, medical students at every level of their education must nevertheless be made aware of the cost of each test, intervention or action if they are to develop a sensitivity about cost containment. This is not a matter only of medical economics and the use of limited national resources. Ethical dimensions are introduced when the balance between cost effectiveness and human effectiveness is incorporated into the process of medical decision making.

Pilot cost control teaching programs are currently being designed or already implemented in the medical schools of California, Illinois, Ohio, Wisconsin, Missouri, Minnesota and Rhode Island. One of the teaching services affiliated with Brown University is about to employ a system whereby each resident reviews both the clinical chart and the business office print-out of diagnostic and therapeutic expenses for the patients of a fellow resident. Under this system, the relevancy and appropriateness of each diagnostic test (as well as the costs generated) are subjected to reasonably careful peer scrutiny. It is hoped that our medical students will also be involved in these exercises.

A few tentative observations have been made on other medical campuses. We do not currently have data to determine whether these are true in the Rhode Island region:

1. The greater use of diagnostic procedures emerges as a major cause of higher costs of care in a teaching hospital.

2. Education, medical audit, and peer review can lead to reduced costs (although such observations were undertaken for only a short span of time and it is premature to assume that this cost reduction would prevail indefinitely).

3. A lack of correlation exists between the extent of laboratory usage and the clinical competence of interns or practicing physicians.

At this time, it appears that the most effective approach that the medical schools can undertake to reduce the nation's health bill is the teaching of medical students to be cost-conscious and to be patient educators. If physicians generate fewer costs and their patients assume a greater interest in their personal health, we may in time see some reduction in the health care costs in this country.

Stanley M. Aronson, MD
Dean of Medicine
Brown University

Workshop on Thyroid Disease

Copley Plaza Hotel, Boston

November 5-7, 1978

Sponsored by the

American Thyroid Association

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For program and registration information, please write to:
WT Registration
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Chicago, Illinois 60637

For additional information, contact the program chairman:
Dr. P. Reed Larsen
Peter Bent Brigham Hospital
721 Huntington Avenue
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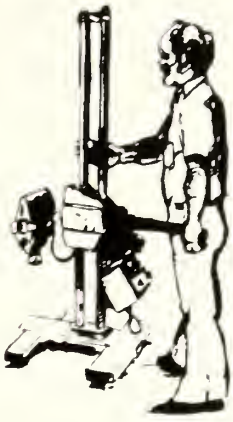

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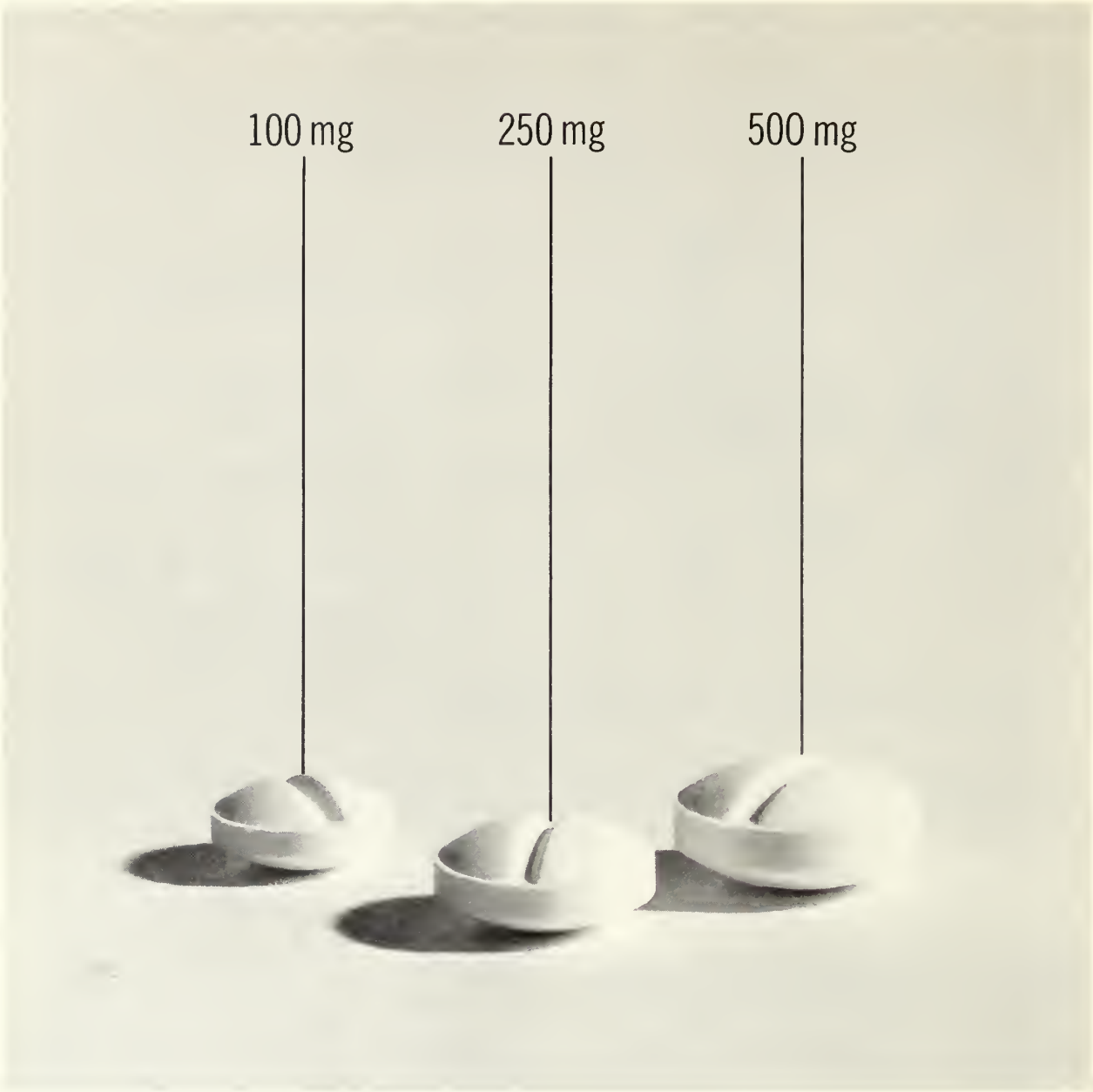

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THE FIFTEENTH ANNUAL MAURICE N. KAY PEDIATRIC SYMPOSIUM

"ADVANCES IN PEDIATRICS"

Presented by

Department of Pediatrics
Roger Williams General Hospital

to be held at

MARRIOTT INN

WEDNESDAY, NOVEMBER 1, 1978

* * *

8:15-9:30 o.m.
Registrotion ond Coffee Hour in the Foyer

Morning Session

9:30 a.m.
Welcome, by Robert H. Rothman, Chairman of the Boord of Trustees, Roger Willioms Generol Hospitol

10:00 o.m.
"The Continuous Seorch for Infectious Agents Involved in Congenital Molformations ond The Torch Syndrome," by Dr. Andre Nohmios, Professor of Pediatrics, Chief, Infectious Diseoses ond Immunology, Professor of Pathology, Associote Professor Preventive Medicine and Community Heolth, Emory University School of Medicine, Atlonto, Georgia

11:30 a.m.
"The Physiological Bosis for the Monogement of Hyoline Membrone Disease," by Dr. Mildred Stohlman, Professor of Pediotrics, Vonderbilt University School of Medicine, Noshville, Tennessee

1:00 p.m.-2:00 p.m.
Luncheon in the Marriott Bollroom

Afternoon Session

2:00 p.m.
"Nutritionol Problems in Childhood," by Dr. Myron Winick, R.R. Williams Professor of Nutrition, Professor of Pediotrics, Director, Institute of Human Nutrition, Director, Center for Nutrition, Genetics and Humon Development, Columbia University College of Physicions, New York, N.Y.

3:30 p.m.
"The Diognosis and Monagement of Childhood Hypertension," by Dr. Jennifer Loggie, Professor of Pediotrics, University of Cincinnoti ond The Children's Hospitol Reseorch Foundotion, Cincinnoti, Ohio

The moderotor of the progrom will be Dr. Leo Stern, Professor ond Choirmon of Pediotrics, Section of Reproductive and Developmental Medicine, Brown University, Providence, Rhode Islond

* * *

For further informotion, write Dr. Mary B. Arnold, Chairman, Department of Pediatrics, Roger Williams General Hospital, Providence, Rhode Islond 02908

Registration fee is $30.00 (includes luncheon). Pre-registration is desiroble.

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The Trustees of the Fiske Fund of The Rhode Island Medical Society announce the following for the Prize Dissertation of 1978:

The Effect of Modern Therapeutics Upon the Quality of the Human Gene Pool

For the best dissertation of the subject worthy of a premium they offer three prizes: $500, $300, and $200. The dissertation will be particularly graded on the basis of original work by the author. The competition is not restricted to physicians. Each competitor for the premium is expected to conform with the following regulations:

To forward to the secretary of the Trustees on or before the fifteenth day of December, 1978, free of all expense, *a copy of his dissertation with a motto thereon, and also accompanying it a sealed envelope bearing the same motto inscribed on the outside with his name and address withon.* The author's name should appear on the title page of the manuscript.

Previous to receiving the premium awarded, the author of the successful dissertation must transfer to the Trustees all his right, title and interest in and to the same, for the use, benefit, and advantage of the Fiske Fund.

Dissertations, other than the successful ones, will be returned to the authors.

The dissertations must be typewritten, double spaced on standard typewriter paper and should not exceed 10,000 words.

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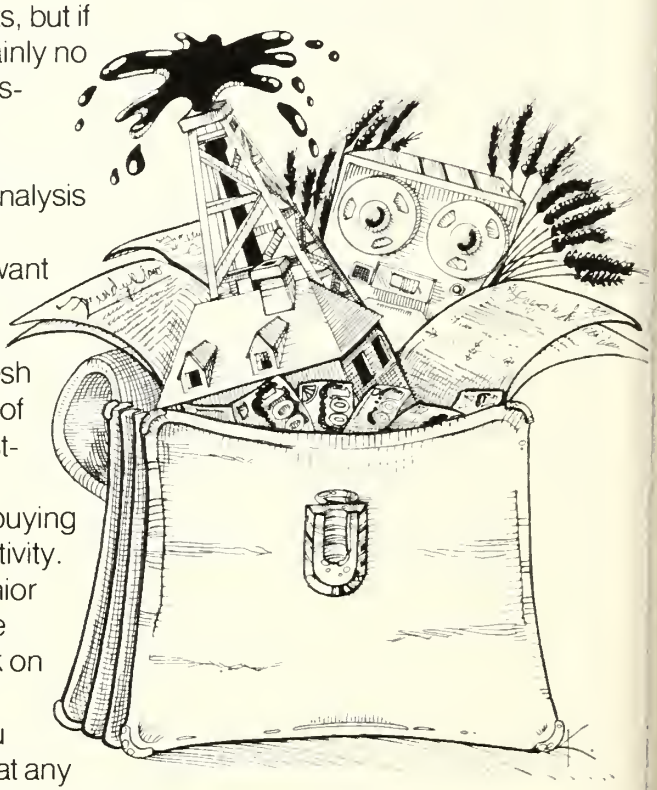

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A Survey Of Rhode Island Motorcycle Fatalities During 1975-1976

Value Of Helmets Is Equivocal, But They Appear To Reduce Severe Head Injuries

By John M. Losee, MD
William Q. Sturner, MD

There is substantial continued interest regarding the potential safety advantages and disadvantages of helmet use in the operation of motorcycles.[1-14] The Rhode Island State Legislature repealed an existing mandatory helmet law in June of 1976. Thus it seems appropriate to begin investigating the events surrounding motorcycle accidents in this state, noting any trends or patterns with respect to helmet use and injuries sustained, epidemiological factors, and other related influences on, and consequences of, serious motorcycle related trauma.

Survey completed in part during Forensic Medicine elective in Brown University Program in Medicine, Providence, Rhode Island

JOHN M. LOSEE, MD, *formerly in Brown University Program in Medicine, Providence, Rhode Island; presently in the Department of Family Practice, University of Colorado Medical Center, Denver, Colorado*
WILLIAM Q. STURNER, MD, *Director, Subsection of Forensic Medicine, and Associate Professor, Section of Pathology and Section of Community Health, Brown University, Providence, Rhode Island; Chief Medical Examiner, State of Rhode Island*

Methods and Materials

The State Medical Examiner's Office contains files on each motorcycle fatality occurring in its jursidiction; those files compiled during the calendar years 1975 and 1976 were reviewed. Most cases contained the following information:

1. Death Certificate (indicates victim's name, age, sex, race, home address, accident location and time, time of death, cause of death, and predisposing factors).
2. Medical Examiner's Scene Investigation Report (outlines accident situation, social history, circumstances, and legally pronounces victim's death).
3. Police Department Scene Investigation Report (documents road conditions, sequence of events surrounding each accident as told by eyewitnesses, vehicles involved and conditions of post-accident vehicle and occupants, evidence of helmet use, and indication of legal action accruing from the accident).
4. Inspection or Autopsy Report (indicates patterns of injury and supplies evidence for information contained on the Death Certificate; reports on all chemical and toxicological tests run on victim's urine, bile, blood,

and vitreous; an inspection report includes patterns of injury by observing only surface markings; whereas an autopsy report also includes findings documented after exposing the interior of the cranium, neck, chest, and abdomen).

5. Related items such as x-rays, the helmet worn, and photographs.

From these documents specific information was obtained from a review of each case. The victim's name, age, sex, race, and home address were determined. The month, time of (day or night), location, and road conditions (including road surface and weather) of the accident were noted. The motorcycle type and age were ascertained as well as helmet use (and injury) and an indication as to whether the victim was registered to operate a motorcycle. The length of post-accident survival was calculated, and any evidence of medical attention was listed. The cause of death was obtained, and it was noted whether this determination was made following an autopsy or inspection.

The patterns of injury as documented by these reports were graded as follows — all injuries were assigned to one of three categories: head/neck; chest/abdomen; extremities. For each category a tertiary grading system was employed according to the following scheme:

(I) indicated the presence of *surface* abrasions, lacerations, etc.;

(II) indicated *fracture(s)* of the particular body region, as found on x-ray, palpation, or observation;

(III) indicated internal *(visceral)* injury such as contusion, hematoma, hemorrhage, laceration, rupture, or avulsion.

It was not possible to quantitate these data in each case by designating (using the judgment of the pathologist performing the inspection or autopsy) how much any injury contributed to the demise of each victim. Thus the most widely used "cause of death" was listed as "multiple injuries." Postmortem (occasionally antemortem) blood levels of alcohol and drugs were also obtained in each case.

A determination of whether or not another motor vehicle was involved and whether this vehicle was charged by legal authorities was made. It was further noted if the incident was labeled an "accident" or "homicide" by the Medical Examiner's Office, and if the victim was reported to have been speeding or otherwise driving recklessly. It was also determined whether or not the accident occurred at a curve or intersection. The general situation of each accident was ascertained and assignment of fault was made when obvious.

Data and Results

A) *Epidemiological Factors:* There were thirty fatalities, twelve in 1975 and eighteen in 1976.These consisted of twenty-nine men (97 per cent) and one woman. Twenty-seven of the victims were white (90 per cent), two black (7 per cent), and one oriental. The mean age was twenty-five with a range of 14-64. Twenty-six victims (87 per cent) were 30 years old or younger.

Only eleven (46 per cent) were registered to operate a motorcycle (data available on 24 victims). In 1976, where this data is complete, only 44 per cent were registered; one victim had had his license suspended for the third time when he had his accident.

All accidents occurred between April and November with 85 per cent occurring between May and September.

Eighteen victims (60 per cent) had been wearing helmets during the accident; of these three were "assumed" to have been worn. Two helmets cracked during impact. One of these split after a bus ran over the victim's helmeted head, and the other broke following its bearer's head striking a guardrail (steel) at approximately 55 mph. One individual had always worn a helmet prior to the repeal of the mandatory helmet law; two weeks later he died in an accident without wearing a helmet as a result of "multiple injuries," which included a fractured skull but didn't involve lethal injuries to the neck, chest, or abdomen. Whether wearing a helmet could have saved this man's life or simply altered lethal injuries can only remain conjecture. In 1975, 75 per cent of the fatalities wore helmets compared to 50 per cent in 1976.

Ninety per cent of the fatalities were judged to be "accidents"; the remaining 10 per cent were "homicides" on the basis that the other motor vehicle involved left the scene ("hit and run").

Only two accidents (7 per cent) involved poor road conditions: one with sand on

blacktop and one on a dirt surfaced land-fill area. Only in the former case was the road surface a significant predisposing factor in the accident; the latter involved a 14 year old boy who struck a fence cable at night, apparently due to poor visibility. Clear weather existed in 100 per cent of the accidents, and 93 per cent occurred on dry blacktop. Forty per cent happened at night and 7 per cent in twilight.

Survival ranged from DOA (dead on arrival with the medical examiner at the scene, or upon victim's arrival to a hospital) to eleven days. Fifty per cent of the victims were DOA. The mean survival for the remainder was 12 hours (excluding one eleven-day and one five-day survival).

Twenty-seven per cent of the victims were autopsied; the remainder underwent inspection. It should be mentioned that many contributing factors concerning the cause of death can be determined by inspection and laboratory data alone. Autopsies were done on all homicide victims and those cases where there was a question as to the cause of death, predisposing factors, or both. Alcohol was present in 60 per cent of the victims' blood with a mean of 0.14 mg per cent and a range of 0.02-0.24 mg per cent. Toxicology studies revealed three cases with carbon monoxide greater than 10 per cent, one case with barbiturates, and another with opiates (thus 7 per cent of the cases involved drug use). No marijuana was detected on fingers or lip washings from any of the victims.

Eight of the accidents involved curves in the road (27 per cent), and sixteen occurred at intersections (53 per cent); three of these involved both curves and intersections. Thus only 30 per cent did not involve a curve or intersection.

Data were available in only 14 cases concerning motorcycle type. Year of make ranged from 1971 to 1976. Motorcycle types were as follows: 4 Honda, 4 Kawasaki, 3 Harley Davidson, 2 Suzuki, and 1 Yamaha. No information regarding motorcycle size was available.

"Other" motor vehicles were involved in 60 per cent of the accidents; one involved an automobile and a bus, one involved a truck, and all others involved a single automobile. Five "other" vehicles were charged by legal authorities as follows: 3 "hit and run," 1 intoxicated driving, and 1 vehicle which failed to pass inspection. Although a fault could not be explicitly determined in 7 cases, it was concluded (according to police documents based on eye-witness reports) that 83 per cent of the remaining accidents were caused by motorcycle driver error and the residua by "other" vehicle error. Motorcycle speeding occurred in 40 per cent of the fatalities according to witnesses; one person lost control of his motorcycle at 120 mph.

Situations surrounding the fatalities were varied. Three motorcyclists were observed to be intoxicated prior to their accidents (confirmed by post-mortem blood tests), while another three were seen to be driving recklessly (speeding not included here) shortly before their demise. One woman was a passenger on the motorcycle (driver was not killed); all other victims were drivers and alone on their motorcycle. Two accidents occurred when the motorcycles attempted to pass automobiles. Seven motorcycles hit fixed objects, and seven riders were seen to "lose control" of their vehicles, with this as the apparent cause of the accident. There was one case of the "other vehicle's driver being intoxicated," and two cases (excluding the "hit and run" incidents) where the "other vehicle hit the motorcycle," whereas in all other cycle-vehicle accidents it was judged that "the motorcycle struck the motor vehicle."

The accident locations most involved were Providence (27 per cent), Warwick (7 per cent), Cranston (7 per cent), Smithfield (7 percent), and Johnston (7 per cent). Townships of victim residency most represented were Providence (27 per cent), Warwick (14 per cent), Cranston (7 per cent), and North Kingstown (7 per cent). Fifty per cent of the accidents occurred in the same township in which the victim resided (including 7 cases in Providence, 2 in Warwick, 1 in Woonsocket, 1 in Coventry, 2 in North Kingstown, 1 in Bristol, and 1 in Fall River, Massachusetts).

B) *Pattern of Injuries:* Table 1 shows the various "causes of death" as recorded on the Death Certificate. Next to each "cause of death" are figures designating those victims and the percentage wearing helmets (H). Seventeen died of "multiple injuries" (MI), the largest of any category, and 9 of these (53

per cent) wore helmets; three of these MI victims had "head injuries" recorded as the secondary cause of death (2 of these or 66 per cent wore helmets). The second highest catogory of "cause of death" was "craniocerebral trauma": 5(17 per cent) of which 3(60 percent) wore helmets. Next in order of frequency was "head/chest" injuries: 2(7 percent) of the total, 1 of which wore a helmet, and "thoracic internal injuries": 2(7 per cent) of the total, both of which wore helmets and neither of which suffered any head injury. One individual succumbed to a "fractured cervical spine"; he was not wearing a helmet. Thus 11(37 percent) individuals had head or neck injuries, or both listed as a primary or secondary cause of death; 6 of these (55 per cent) wore helmets.

Table 2 summarizes the results from the inspection and autopsy reports and documents many injuries not apparent from the above data derived from Death Certificates, which was less exact, particularly with respect to those deaths labeled "multiple injuries." This table shows a very high percentage of superficial injuries, grade (I), in all three body area categories. Ninety per cent of all victims had surface trauma on their head and necks and extremities while eighty per cent had similar injuries on their chests and abdomens.

Grade (II) indicates fractures of the various body regions. Sixty-three per cent of all victims suffered fractures of the extremities whereas fifty-three per cent had fractures of ribs, clavicles, pelvic girdles, or combinations thereof. Fourteen of the 19 victims having fractures of extremities were labeled as "MI" victims (82 per cent of those labeled as "MI"). Grade (II) for Head/Neck is subdivided into neck fractures (cervical spine or laryngeal), facial fractures, and skull fractures. Ten victims with "MI" as their cause of death had such fractures (59 per cent) which unveils 7 new "MI" victims as having head/neck trauma without such indication on their Death Certificates.

Four individuals had neck fractures (13 per cent of the total): 75 per cent of these wore helmets. Three of these four individuals had fractured cervical spines and one had a

TABLE 1

Tabulation of "Causes of Death" as listed on Death Certificates

Cause of Death	Number	% of Total	(H)
Multiple Injuries*	17	57	9
Craniocerebral Trauma	5	17	3
Thoracic Internal Injuries**	2	7	2
Multiple Skeletal Injuries	1	3	1
Thoracic/Abdominal Injuries	2	7	2
Head/Chest Injuries	2	7	1
Fractured Cervical Spine	1	3	0

(H)=Helmet Worn
*Three had secondary cause of death listed as "Head Injuries": 2(H)
**No Head Injuries Demonstrated

TABLE 2

GRADING OF INJURIES FROM AUTOPSY AND INSPECTION REPORTS

	(I) Superficial	(II) Fractures		(III) Visceral Injury	
A. Head/Neck	27(90%)	*Neck	4(13%) 3(H)	**Neck	3(10%) 2(H)
		Skull	14(47%) 6(H)	Brain	11(37%) 7(H)
		Face	3(10%) 3(H)	Face	0 0
		Total	21(70%) 12(H)	Total	14(47%) 9(H)
b. Chest/Abdomen	24(80%)		16(53%)		20(67%)
c. Extremities	27(90%)		19(63%0		0

(H)=Helmet Worn
*One fracture of the larynx and three cervical spine fractures
**Two deep hematomas and one transection of the great vessels

probable laryngeal fracture. Three individuals had facial bone fractures (10 per cent of all victims), and all of these wore helmets. Fourteen individuals (47 per cent of total) had skull fractures, and 43 per cent of these wore helmets. Thus a total of 21 (70 per cent of all victims) had head or neck fractures, or both, which are serious and potentially lethal forms of trauma; 60 per cent of these individuals wore helmets.

Grade (III) injuries of the chest or abdomen, or both occurred in 20 (67 per cent of total victims) individuals. Thirteen of these were labeled as "MI" (76 per cent of all MI victims had grade (III) injuries). Grade (III) injuries of the head or neck, or both were subdivided into deep neck injuries and brain injuries. Note that 7 individuals listed as "MI" (41 per cent of the "MI" victims) sustained such injury. Three (10 per cent of total) individuals had significant deep soft tissue injury of the neck; two had hematomas and one had the great vessels in his neck transected. Two of these (66 per cent) wore a helmet. Eleven (37 per cent of all accident victims) sustained grade (III) brain injuries, seven of which (64 per cent) wore helmets. Thus a total of 14(47 per cent of total) sustained grade (III) head or neck trauma, or both, 9 of whom (64 per cent) wore helmets.

Seven individuals received no more than superficial injuries to their heads and necks (23 per cent of all victims), and five of these wore helmets (71 per cent). It is of interest that one individual gave a history of having had a previous cervical spine fracture with therapeutic fusion in 1969. He died of "MI" including a skull fracture but with no evidence of neck injury. He was wearing a helmet during his accident.

Discussion

It appears that the yearly number of motorcycle fatalities is rising, but continued documentation and follow-up studies are necessary to determine the rate of increase. The vast majority of victims are white males in their mid-twenties. More than half of the victims were not licensed to operate a motorcycle. This perhaps indicates that many fatal motorcycle accidents involve inexperienced operators. All motorcycles involved in fatal accidents were registered.

In 1975 there were 17,185 registered motorcycles in Rhode Island and 16,926 in 1976. No data were available from the Department of Motor Vehicles regarding the number of licensed individuals for these years. In 1975 there were 472 motorcycle accidents including 12 fatalities, 286 non-fatal personal injuries, and 174 property damage incidents. These data were not available for 1976. Using 1975 data, it appears that there are many more motorcycle users than registered motorcycles. This factor may be as high as 1.5-2.0 if we use the data from the fatality population as an indication of the total number of users with respect to licensed motorcycles (this ignores passengers, which would further increase the factor).

In 1975, 2.76 per cent of all motorcycles were involved in an accident. Thus it is probable that between 1.3-1.8 per cent of motorcycle users were involved in accidents (this latter estimate uses the factors 1.5-2.0 derived from the fatality statistics above). In this same year 1.7 per cent of motorcycles were involved in an accident resulting in non-fatal injury to their drivers, indicating that between 0.8 and 1.1 per cent of motorcycle users were involved in similar injury. In this same year about 0.07 per cent of all motorcycles were involved in fatal accidents or about 0.03-0.045 per cent of all motorcycle users were killed, or about 0.3 deaths per 1000 cyclists. These figures increased to about 0.11 per cent of motorcycles involved in a fatal accident in 1976, or 0.06-0.17 per cent of motorcycle users killed that year on their motorcycles. Thus between 8.5 and 10.5 per 1000 motorcycle drivers sustained personal injury or were killed in Rhode Island in 1975.

An approximately bell-shaped curve centered around mid-summer exists for frequency of total accidents with respect to month of year. This is what would be expected, since there does seem to be a rather obvious "motorcycle season."

Three-fifths of all fatalities in motorcycle accidents involved operators or riders wearing helmets. About 1 in 10 helmets worn were broken during the impact of the accident. The trend toward discarding helmets since the repeal of the mandatory helmet law seems evident in that riders in only half of the fatalities in 1976 wore helmets, whereas three-quarters of those who

died in 1975 wore helmets. During this same period fatalities increased by 59 per cent (from 1975 to 1976) though the number of registered motorcycles (and possibly users) remained about the same or slightly decreased. This is insufficient evidence to incriminate helmet non-use in the worsening statistics between 1975 and 1976, but it is suggestive. This will be discussed further below when injury types are correlated with helmet use.

The vast majority of fatalities were accidental in nature, but two victims were judged to be homicides on the basis of legal definition ("hit and run"), as the other vehicle failed to render assistance and left the scene. One incident still has no suspect and is unresolved.

Most accidents occurred in good weather and with good road conditions. However, poor road conditions can contribute significantly to individual accident situations. Almost half of the fatalities occurred at times of reduced visibility (night and twilight).

Half of those involved in motorcycle fatalities died instantly, with the other half surviving an average of one-half day, while two survived up to a week.

Autopsies were done on one quarter of the victims; laboratory studies were completed on each case. Alcohol was present in three-fifths of all fatalities, with an average level well above that necessary to seriously compromise operating ability. Carbon monoxide was elevated in 10 per cent of the cases, probably from motorcycle exhaust or smoking, or both. Two cases involved drugs, which were detected in body fluids. No previous marijuana use was evident.

It is significant that 7 of 10 accidents occurred at curves or intersections, or both. Curves were involved in over one-quarter of the cases and intersections in over one-half. Thus, motorcyclists are vulnerable to certain road characteristics.

No useful conclusions can be reached concerning motorcycle type, age, or size. Cycle size may contribute to significant correlations, but data will have to be obtained with regularity in the future in order for this variable to be investigated. For example, light-weight cycles may be implicated due to their being operated by relatively less experienced drivers and perhaps secondarily due to their supposed lesser stability in some situations.

Three-fifths of the fatalities involved another motor vehicle. About a quarter of these other vehicles were charged by legal authorities as being at fault. Overall, in more than 8 of 10 accidents the motorcyclist was at fault. Speeding was implicated in 40 per cent of the fatalities. In one out of five fatalities the driver had been observed prior to the accident to be intoxicated or driving recklessly. The vast majority of accidents involved a solo driver motorcyclist. In one in five accidents loss of control by the victims was thought to be the sole reason for the accident. In most cycle- vehicle accidents it was the motorcycle that struck the motor vehicle.

Although motorcycle fatalities occurred throughout the state, the incidence was roughly proportional to the population of the area of occurrence. One-half died in the township in which they lived.

"Multiple Injuries" was the "cause of death" for over half of the fatalities, but many serious injuries were masked by this category. Thus, any study based on reviewing only Death Certificates may exclude some important additional data that are available from the inspection and autopsy reports. From the Death Certificate alone it can be determined that approximately 4 of 10 individuals died of serious injuries of the head or neck, or both and half of these individuals wore helmets. It cannot be ascertained from these statistics alone whether the use of a helmet has a protective or endangering role. It appears that in many accidents helmets were insufficient to yield any life-saving protection against the massive force that some individuals sustain on impact. According to the Death Certificates, the majority of fatalities occur from injuries to parts other than the head and neck. Thus, in only certain individual cases would helmets have had an important role to play, and it would require a study of non-fatal motorcycle accidents to define these situations. However, more information was obtained from the autopsy and inspection reports. All individuals sustained some form of superficial injury, and in the vast majority of cases the trauma involved all body areas (extremities, chest/abdomen, and head/

neck. When studying the data from these sources one finds seven cases among the "MI" victims with injuries to the head or neck, or both comprised of fractures not stated on Death Certificates.

Three of the four victims with fractured necks wore helmets, which may suggest that helmets are implicated in contributing to this form of injury (or at least are not providing protection). More data are needed to confirm or disprove this finding. All three of those with facial bone fractures wore helmets, suggesting that helmets do not protect against such injury.

Half of the fatal accident victims sustained skull fractures, about 40 per cent of whom wore helmets. Thus, although helmets do not always prevent such injury, they have a protective role in some cases. This concept is further supported by the fact that 5 of the 7 victims who sustained no head/neck injury, or injury not greater than grade (I), wore helmets.

Two-thirds of all victims had fractures of the head or neck, or both, of whom 60 per cent wore helmets; two-thirds of all victims had internal injuries of the chest or abdomen, or both. More than one-half of these were labeled as "MI" cases; and two-thirds of the individuals sustaining deep neck injury wore helmets. This again suggests that helmets may be implicated in neck trauma.

Approximately 40 per cent of the victims sustained brain injury, two-thirds of whom wore helmets. Again, a study of non-fatal accidents is required to confirm and quantify this figure.

No absolute formations can be made about helmet-wearing. Their use seems to be associated with an increased incidence of neck injury, and they seem not to protect against facial fracture or many closed-head injuries. On the other hand, they may prevent some skull fractures, and their use appears to be associated with fewer serious head/neck injuries of all forms.

Comparison of "head and neck" injuries occurring in 1975 with those in 1976 is important, since the former year yields data during the mandatory helmet law, while the latter represents the first year when helmet use was not legally required. Using the information contained in the Death Certificate (a total of 11 deaths officially due to craniocerebral trauma during these two years, 6 of which occurred while using helmets) one finds that in 1975, 8 deaths (66 per cent) resulted from trauma to the head or neck, or both; 4 of these victims (50 per cent) wore helmets. In 1976, three (17 per cent) were described as having fatal craniocerebral trauma, one of whom (33 per cent) wore a helmet. Thus, from these data alone, it appears that fatal injury to the head or neck, or both was drastically diminished (in both absolute number and percentile of total deaths from motorcycle accidents). As has been stated previously, the data on the Death Certificate omitted much information. This perhaps resulted in a faulty interpretation of the true picture of injury patterns, at least in magnitudes of change.

A more comprehensive view of the total available data may be obtained by examining the inspection and autopsy patterns of injury to the head or neck, or both. A total of ten (83 per cent) individuals had trauma of grade II or III, or both of the head/neck in 1975, seven (70 per cent) of whom wore helmets. This compares with a total of thirteen (72 per cent) individuals in 1976 who sustained similar injury, six (46 per cent) of whom wore helmets. Examination of these data (though admittedly the population data base is small) supports the conclusion from the Death Certificate. However, the decrease in percentage of incidence of trauma of the head or neck, or both from 1975 to 1976 (83 per cent to 72 per cent) is much less than the Death Certificate data suggest (66 per cent to 17 per cent) and in fact represents a rather small marginal decrease, the statistical significance of which is questionable. In any case, no increase was found in head or neck trauma during the first year without a mandatory helmet law.

Thus from the more accurate data source it appears that during the first year without a mandatory helmet law the percentage of victims suffering fatal injury to the head or neck, or both decreased slightly, but this was accompanied by a decrease in helmet usage among those involved in this type of serious injury. Although reduced helmet usage during these two years correlates with a reduced incidence of head/neck trauma among fatality victims, a cause-and-effect relationship between the two types of data does not

necessarily exist. Again, it is emphasized that data derived from survivors of motorcycle accidents may yield more specific information concerning the safety advantages of helmet use, since those suffering fatal injuries usually sustain massive traumatic insults to the entire body.

Conclusions

This study of epidemiological factors and patterns of injury with respect to helmet use among those involved in fatal motorcycle accidents in Rhode Island during 1975 and 1976. Follow-up studies in succeeding years could provide additional data and a more valid statistical analysis. A study of non-fatal motorcycle accidents is warranted and would supply useful information regarding the "helmet debate."

Addendum

During the calendar year 1977 there were 21 fatal motorcycle accidents 2 of which involved "trail bikes" which struck each other. There were 20 operators and 1 passenger. Seven, or one-third, wore helmets. Twelve cases were certified as having sustained head injuries, four of whom wore helmets. Five victims had alcohol in their systems with one showing narcotics and other drugs. Compared to the previous two years, there was an increase in total number of fatalities, a decrease in operators wearing helmets, but a similar number dying from head trauma. There was a decrease in the number with alcohol in their systems, but a similar number utilizing drugs.

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Office of Chief Medical Examiner
48 Orms Street
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What's the difference, so long as you're healthy?

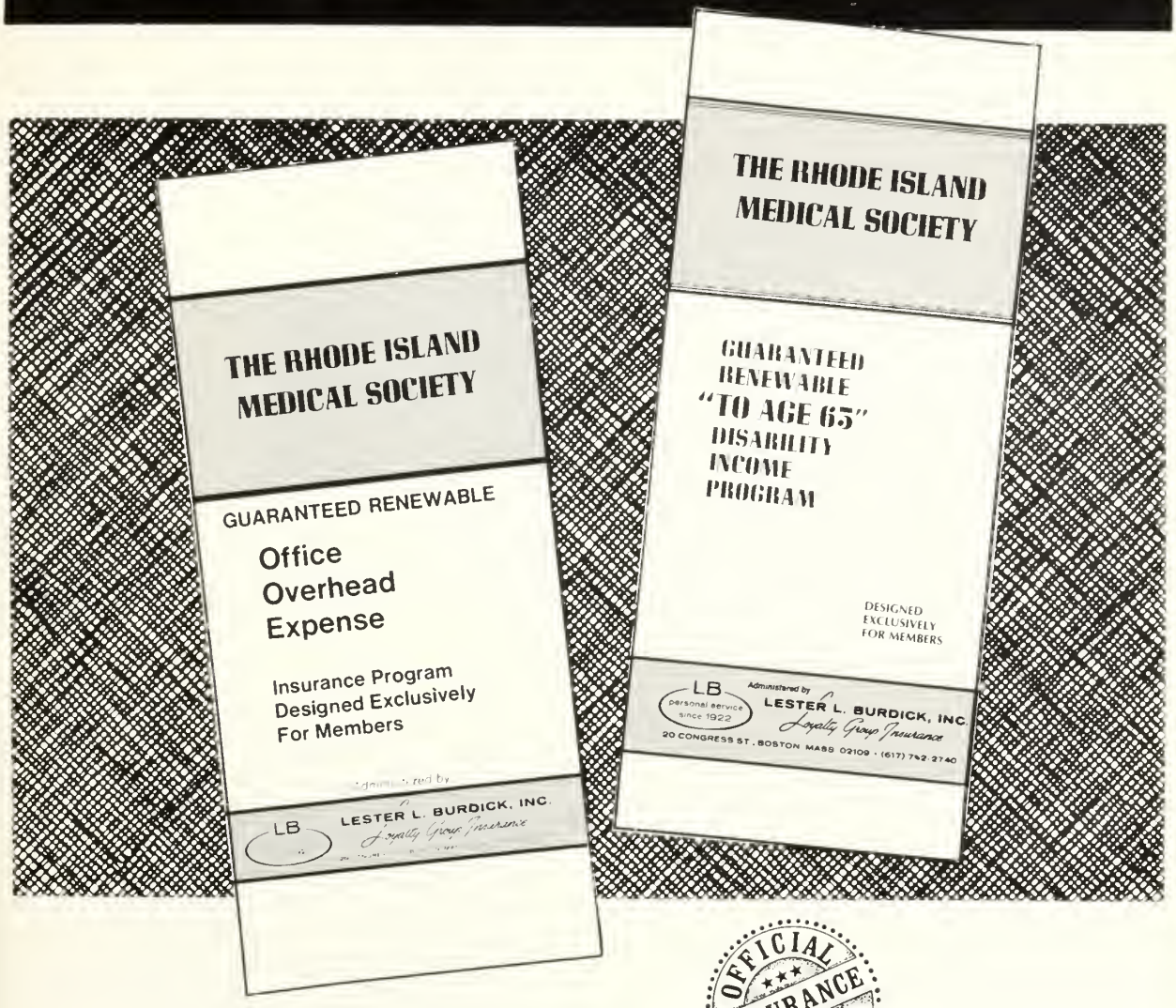
Perhaps I shouldn't introduce a moment of levity into this situation, but our religious beliefs do influence our thinking. I am reminded of a doctor who had three patients who all appeared to be terminal cases. When the doctor asked one of the patients, an Irishman, if he had a final wish, the man replied, "Well, I haven't been to church for quite a while. I'd like to see a priest." The doctor said all right.

The next patient was an atheist, and the doctor asked the same question. The atheist replied, "Well, I've got a son. We had a fight about 10 years ago, and I haven't seen him since. I'd sort of like to make up, if he would just come by to say good-bye."

The third patient was a Hebrew, who thought about the question for a moment and said, "Yes, I'd like a consultation."

. . . J. Englebert Dunphy, senior statesman of surgery. From lecture on "Ethics in Surgery." *(Bull Am Coll Surg* 63:8, Jun 78).

Have you inquired about...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Toxic Megacolon In Inflammatory Bowel Disease: A New Perspective

The Role Of Granutomatous Colitis In Toxic Megacolon May Equal Or Exceed That Of Ulcerative Colitis

By Roy Carman, MD
Edward A. Iannuccilli, MD
Walter R. Thayer, MD

Toxic megacolon is a dreaded complication of inflammatory bowel disease (IBD). Since first reported 25 years ago, authors have associated toxic megacolon with ulcerative colitis.[19] Toxic megacolon complicating granulomatous colitis or other inflammatory lesions of the colon, on the other hand, is thought to be a much rarer occurrence. The purpose of this paper is to describe our experience with toxic megacolon, which is at variance with current dogma, and then to present a critical review of the literature which will suggest a different approach to this entity.

Case Descriptions

In the past four years we have had four cases of toxic megacolon complicating IBD.

Case 1. This 25-year-old female complained of crampy abdominal pain and bloody diarrhea of three months duration. A barium enema performed early in the onset of her illness showed multiple linear ulcerations in the transverse colon. The clinical diagnosis of granulomatous colitis was made. The patient presented in a dehydrated and toxic state with a temperature of 103° and a distended tender abdomen. Total white blood cell (WBC) count was 20,600 with a shift to the left. Initial therapy consisted of ACTH, intravenous fluid replacement, and nasogastric (NG) suction. However, rapid clinical deteroration in association with serial plain films showing markedly dilated colon (Fig 1) prompted a total proctocolectomy. Grossly, the surgical specimen showed deep linear ulcerations, especially in the ascending portion of the colon. In areas of confluent ulceration some mucosal bridges were spared. The colon measured 9 cm in width with a considerable amount of fibroadipose tissue attached to the bowel. The microscopic examination showed ulceration extending to the muscularis mucosa with hypertrophy of the muscular layer. The inflammatory change was transmural (Fig 2) with serosal thickening. There was goblet cell proliferation.

From the Department of Medicine, Division of Gastroenterology, Rhode Island Hospital and the Division of Biological and Medical Sciences, Brown University, Providence, Rhode Island. Presented at the Regional Meeting, American College of Physicians, Hanover, New Hampshire, October 1, 1976.

Figure 1 Plain film of the abdomen in a patient with toxic megacolon.

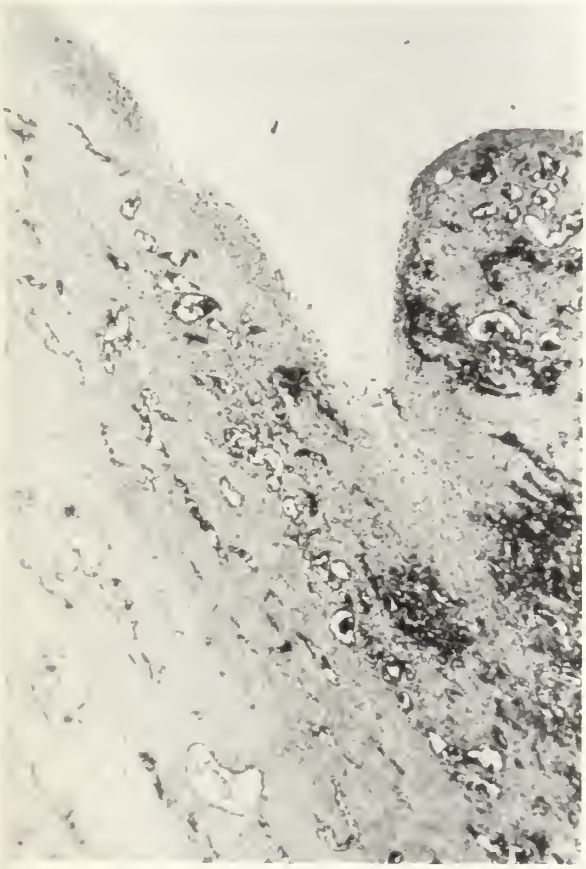

Figure 2 Typical transmural inflammatory involvement noted in toxic megacolon.

Case 2. This was a 20-year-old female who presented with abdominal pain, distention, and severe vomiting. Sigmoidoscopy at that time demonstrated an inflamed friable mucosa, and barium enema was interpreted as showing "ulcerative colitis." There was a family history of regional enteritis. She initially responded to steroid therapy, but relapsed several weeks later and was readmitted to the hospital with a distended tender abdomen and a temperature of 102°. Total WBC count was 17,500, and plain film of the abdomen revealed a markedly dilated colon. Therapy, which consisted of NG suction, intravenous fluids, and corticosteroids, was ineffective. A total proctocolectomy was performed after 48 hours of hospitalization. The colon was grossly dilated to 9 cm with patchy areas of gangrenous change. Microscopically, areas of large ulceration extended into the muscularis mucosa in a patchy fashion. Throughout the specimen a transmural infiltrate with serosal involvement predominated, but no granuloma were noted.

Case 3. This was a 46-year-old male presenting with a three-week history of bloody diarrhea, nausea, and vomiting. During that time he had received Lomotil®, ampicillin, and ACTH, after a diagnosis of inflammatory bowel disease had been made 6 months previously by sigmoidoscopy and barium enema. On physical examination the patient appeared toxic and had a temperature of 101°. Total WBC count was 13, 600 with a shift to the left. The abdomen was distended and tender with hypoactive bowel sounds. Nasogastric suction, intravenous fluids, and corticosteroids did not alter progressive clinical deterioration or the increasing dilatation of the colon on x-ray examination. On the fourth hospital day a total proctocolectomy was performed. The colon was dilated to 7 cm and revealed microscopic changes of a transmural inflammatory process. Ulcerations extended into the muscularis with overhanging edges of normal-appearing mucosa, and goblet cell proliferation occurred where mucosa was intact. The serosa was involved with inflammatory changes and there was muscular hypertrophy, but again no granuloma were noted.

Case 4. This was a 26-year-old female who presented with bloody diarrhea of three

months duration. Past history was noncontributory. Physical examination revealed patient to be dehydrated and toxic-appearing with a temperature of 102°. Total WBC count was 22,500 with a shift to the left. The abdomen was markedly distended with hypoactive bowel sounds. Sigmoidoscopy showed ulcerated granular friable mucosa. Despite NG suction, intravenous fluids, and corticosteroids, the colonic dilation progressed on plain film x-ray examination to over 10 cm. On the 16th hospital day a subtotal colectomy and removal of 93 cm of ileum were carried out. The mucosa of the colon and ileum contained deep linear ulcerations with transmural inflammation throughout. The ulcerations frequently involved the muscularis mucosae, and there was serosal thickening with inflammatory involvement. The appendix was also involved in the inflammatory process. No granulum were noted. Since that time, the patient has had recurrent inflammation seen on sigmoidscopy in the remaining portion of the rectum.

Discussion

From our experience with toxic megacolon (TM) in inflammatory bowel disease (IBD), a common pathological picture emerged. Inflammatory involvement was transmural and ulceration extended deep into the muscularis mucosa. Additional findings were muscular hypertrophy, serosal involvement, and goblet cell hypertrophy where the mucosa was intact. Microscopic changes typifying all four cases are shown in Fig 2. Two of the four cases were diagnosed as granulomatous colitis by clinical and pathological appearance, while the other two were considered to be highly suggestive of that disorder, although no granulomata were noted in any of the cases.

TABLE 1.

Representative Studies of Toxic Megacolon in I.B.D.

Study	No. of Cases with Path. Documentation	No. of Cases with Transmural Involvement
LUMB et al ...	7/7	6/6
MARSHAK et al	8/16	8/8
ROTH et al ...	7/12	3/7
McINERNEY et al	13/36	13/13
NORLAND et al	11/42	11/11

While our experience is not large, this transmural involvement is quite dissimilar to the predominantly mucosal involvement in uncomplicated ulcerative colitis. However, it correlated well with the observations of other authors concerning the changes associated with toxic megacolon in IBD.

Although carlier allusions to toxic megacolon has appeared, Marshak described the index case in 1950. The report was of a 46-year-old male with a seven-year history and diagnosis of ulcerative colitis. In 1955 Lumb et al[2] reported the first series of cases of toxic megacolon in IBD. They described an entity "involving all elements of the colon" with ulceration deep into the muscular coats and patchy fibrous repair. One of the six cases spared the rectum, and only two of the six had "pancolitis." Granulomatous colitis (GC) was then an unknown entity, later described in 1961 by Lockhard-Mummery and Morson.[8] Roth et al[4] in 1959 reprted 12 cases, of which seven had sufficient microscopic data for study, transmural involvement was identified in 3 of the cases. The inner muscular coat was "the principal site of inflammatory damage." They used as controls thirty patients undergoing surgery for ulcerative colitis (not for toxic megacolon) and noted a comparable degree of inflammatory change in only six. They concluded that the "inflammatory process into the muscularis portion of the bowel did not necessarily produce . . . toxic megacolon." Marshak et al[3] reported sixteen cases in 1960. Of the eight cases with sufficient pathological data for review, a common picture of transmural inflammatory involvement and deep ulceration emerged in all eight. McInerny et al[5] reported 36 cases in 1962. In the 13 cases with pathological data sufficient for evaluation, the "inner and outer muscular layers . . . were involved in the inflammatory process." Subserosal thickening and associated granulation tissue were noted along with the "intense inflammatory infiltration." In the series reported by Norland et al in 1962 among the 11 cases with sufficient data for evaluation, all were described as having a "transmural inflammatory process with marked muscular and serosal destruction." The authors gave an incidence of toxic megacolon in UC of 1.6-6.0 per cent. A summary of the results of these authors is

shown in Table 1. Thus, a common pathological picture emerges that closely resembles our experience with toxic megacolon; and as one examines the pathological changes of granulomatous colitis, a closer correlation with the transmural inflammatory picture of toxic megacolon emerges. Lockhard-Mummery and Morson[8] in 1961 added a new dimension to IBD by first describing granulomatous colitis. More recently Glotzer et al[9] discussed criteria for distinguishing GC from UC. They stated that microscopic assessment as to the depth and location of ulceration and inflammatory change, coupled with the clinical course of the patient, permitted differentiation of the two entities 75 per cent of the time. They noted the presence of granulomata, the *sine qua non* of GC, in only 23 of 95 suspected cases. However, 11 of 95 cases had sinus tract and transmural inflammatory changes together with a clinical course consistent with GC, but no granulomata. In twenty-five per cent of the cases the clincal course had features of both entities, although transmural involvement, rectal sparing, and predominently right-sided or patchy colonic involvement indicated a diagnosis of GC.

Although it was initially predicted that it would be an unlikely occurrence, if not an impossible one, toxic megacolon was first observed in GC by Schacter et al[10] in 1967. The case presented transmural disease and granulomata. There have been numerous similar case reports[11-15] since that time. Buzzard et al[16] in a retrospective study presented 12 cases of deep linear ulcerations, transmural infiltrates, and serosal involvement in TM associated with GC. Granulomata were noted in 4 of the 12 cases; and the incidence of TM in GC was 6 per cent, an incidence analagous to that reported by Norland et al in UC.

Others have suggested ileus, hypokalemia, barium enema, opiates, and Auerbach plexus injury as causes of TM, although without substantiation for any of them. Is ulcerative colitis alone or some therapeutic manipulation during its management the only factor in the development of TM? Sleisenger and Fordtran note that "this complication (toxic megacolon) is more commonly noted in ulcerative colitis, may occasionally be encountered in granulomatous colitis, and seems to be confined to those in whom granulomata, sinus tract, and inflammation extending as far as the submucosa have *not* been noted." The implication, and what most critics of TM in GC propose, appears to be that dilatation is impossible in thickened bowel. However, if one reviews the literature,[10-15] one finds a striking predominance of cases with histories extending over several years before toxic dilation has occurred, with the bowel wall containing typical changes of chronic inflammation and thickening in any area not involved by dilatation.

The pathological correlation of transmural inflammatory change with TM is strengthened by noting its occurrence in other colonic inflammatory lesions. Green et al[17] noted two cases of regional enteritis with toxic dilatation of the distal ileum alone. Furthermore, toxic megacolon has been observed in amebic colitis,[18] again with transmural inflammation, and has been reported in antibiotic induced colitis and bacillary dysentery.[19]

The absolute number of cases of toxic megacolon reported in granulomatous colitis does not approach that for ulcerative colitis. We are suggesting that the association of toxic megacolon with ulcerative colitis is rooted in an era that antedated the knowledge of granulomatous colitis as a separate entity. To appreciate the significance of transmural inflammation as the deciding factor and the understated association of GC in toxic megacolon, a new approach must be taken. Thus, while toxic megacolon continues to complicate all colonic inflammatory states, current theory implicates ulcerative colitis *per se,* or its presence coupled with a therapeutic event as the predominant etiology of toxic megacolon. We propose instead that the one factor noted consistently in all cases of toxic megacolon, regardless of the underlying colonic lesion, is the transmural inflammation, with ulceration and serosal involvement. Development of this pathologic picture predisposes the patient to developing toxic megacolon. This being the case, there is no logic to support ulcerative colitis as the "predominent underlying cause." Actually, granulomatous colitis, with its transmural involvement, creates a pathologic milieu more conductive to the development of toxic megacolon. In the future, all cases of toxic megacolon should be evaluated without

previous bias as to the underlying cause. We suggest that if this course is followed the role of granulomatous colitis will be found equal, or perhaps exceed, that of ulcerative colitis in toxic megacolon.

Conclusion

Toxic megacolon is currently thought to be rather frequent in granulomatous colitis and other colonic inflammatory lesions. A review of our experience with toxic megacolon, coupled with a critical analysis of the literature, has led to a new perspective regarding this dreaded complication of inflammatory bowel disease.

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Dysphagia Secondary To Ankylosing Vertebral Hyperostosis

Prompt Surgical Treatment Is Safe And Effective

By Toussaint A. Leclercq, MD
A. Vincent DeRobbio, MD

Dysphagia secondary to osteophyte formation of the anterior cervical region is a rare disorder. Case reports regarding this condition have appeared sporadically in the literature. In 1974 approximately sixty cases had been reported.[1] Cases associated with ankylosing vertebral hyperostosis of Forestier's Disease are even more uncommon. To our knowledge only a few cases of this association have been reported. Meeks and Renshaw[2] reported two cases in 1973 and Carlson et al [1] reported an additional case in 1974.

Symptoms associated with a mass of osteophytic bones significant enough to impinge on the food passageways include: hoarseness of voice, pain, difficulty in swallowing solids, sensation of a foreign body in the throat, lump in the throat, constant urge to clear the throat, and weight loss.[3]

TOUSSAINT A. LECLERCQ, MD, *Microneurosurgery, Rhode Island Hospital and Roger Williams General Hospital, Providence, Rhode Island*
A. VINCENT DEROBBIO, MD, *Department of Medicine, Roger Williams General Hospital, Providence, Rhode Island*

These symptoms in elderly patients, however, should always first raise the question of malignancy. It is obvious that a complete workup should be performed before osteophytes can be considered as the source of the symptoms. In a review of 1200 cases of dysphagia in 1962, LeRoux[4] did not find a single case due to osteophytes. Indeed, the rarity of this condition causes some authors to question the bona fide etiology of osteophytic spurs as a cause of dysphagia.[5] Because of this, however, treatment has been unduly delayed, and patients have been allowed to reach a severe state of malnutrition in a condition which is otherwise benign and readily treatable.[5]

Our purpose is to report one case of dysphagia secondary to Forestier's Disease and the successful treatment by anterior excision of the exophytic bone.

Case Report

For approximately one year, this seventy-one year old male had noticed difficulty in swallowing meat or large chunks of food, but he had been able to cope with the situation by changing his diet. Recently, however, he had been unable to swallow solids at all. The situation was complicated by the fact that he suffered from Parkinson's Disease and diabe-

tes mellitus and for the last three weeks had been unable to swallow the pills necessary to his medical treatment. A ten-pound weight loss had been noted in the three weeks preceding his admission. This inability to take his medication had significantly increased the rigidity associated with Parkinson's Disease. Two weeks prior to the present admission the patient had been observed for a few hours in the emergency room because of severe dysphagia and choking.

On admission the patient was in moderate distress and anxious because of the difficulty in swallowing. The neurological examination revealed findings compatible with Parkinson's Disease. There were no neurological deficits secondary to cervical osteophytes. No mass could be palpated in the neck. X-ray films of the cervical spine revealed Forestier's Disease (Fig 1) with marked bony overgrowth. A barium swallow x-ray study was performed which revealed anterior displacement of the esophagus in front of the osteophytes. There was, however, no blockage of the barium swallow, which could be conducted without difficulty.

In view of the fact that the patient had a recent weight loss, was unable to cope with the situation with dietary changes, and was unable to take medication, the decision was made to perform surgery. The approach was that described by Smith and Robinson.[6] The osteophytic spurs themselves were removed with an electric drill. Intraoperative x-ray films were taken to confirm satisfactory removal of the calcium deposits. There were no complications and the patient was discharged on the seventh postoperative day. When seen one month postoperatively in the office, the patient was in no distress. He had regained the weight loss and was able to swallow solid food, including chunks of meat. He had no difficulty in swallowing his medications. Postoperative x-ray examina-

Figure I Lateral x-ray of the cervical spine showing severe osteophytic bridging between C-3, C-4, and C-5, C-6.

Figure II Postoperative x-ray film of the cervical spine after removal of the excess bone by air drill.

tion of the cervical spine revealed satisfactory removal of the spurs responsible for the symptoms (Fig 11).

Discussion

Ankylosing hyperostosis of the spine has been described in the literature under different names such as: Physiologic vertebral ligamentous calcification.[7], generalized juxta-articular ossification of ligaments of the vertebral column,[8] and vertebral osteophytosis.[9] The term "senile ankylosing hyperostosis of the spine" was used by Forestier in his original report in 1950.[10] In 1971 Forestier and Lagier reviewed the clinical and radiologic manifestations based on 245 cases.[11] Hyperostosis is described as involving predominantly the anterior surface of the vertebra. A limited number of vertebrae is usually involved, with bony bridges forming between the vertebral bodies. Pain is usually not a part of the clinical picture. Forestier mentioned the disease as a cause of dysphagia in exeptional cases, but did not mention the frequency of the occurrence of such a complaint.

The first approach to dysphagia secondary to Forestier's Disease should certainly be conservative, as is the case with dysphagia secondary to osteophytic formation of different etiology. This includes reassurance and change of eating habits. This approach failed in our case. Furthermore, the inability to swallow the medication necessary to the treatment of Parkinson's Disease increased the rigidity significantly and inclined us toward surgical treatment. The ten-pound weight loss in the three weeks preceding admission was also pertinent to our decision. We believe that in such a situation, the operative procedure should not be unduly delayed. Procrastination in deciding upon a definite surgical approach may result in a severe cachectic state and even in the death of the patient as has been described in the literature.[5] Surgical excision of the osteophytes usually results in good relief of the symptoms.[12] Gastrostomy has been advocated[13] in patients in poor general condition. We believe, however, that such a state should not be reached if treatment is instituted early in the disease. The anterior cervical approach as described by Smith and Robinson is now a benign operation with minimal operative stress and in our opinion should be the treatment of choice.

Performance of endoscopy prior to surgical treatment is a matter of controversy in the literature. Beahrs and Schmidt[14], as well as Hilding[3], have advised caution in performing endoscopy because of the significant associated risk. Indeed, in reviewing 29 cases of esophageal or pharyngeal perforation, Smith and Tanner[15] considered osteophytes as the causative factor in 75 per cent of such perforations. Such a high risk may not be entirely justified since it may be impossible to perform a technically satisfactory endoscopy, as reported in the cases of Saunders[5] and Heck[13]. If endoscopy is considered necessary, the utmost caution must be exercised by the examiner, and he must be aware of the significant associated risk of perforation associated with this maneuver.

Conclusion

We believe that dysphagia secondary to exuberant osteophytic overgrowth, such as that described in our case, is best treated by anterior excision of the offending osteophytes. The operation is benign and expeditious. The surgical risk is minimal, and this approach has resulted in significant improvement of the patient's complaint with the possibility of a return to normal eating habits.

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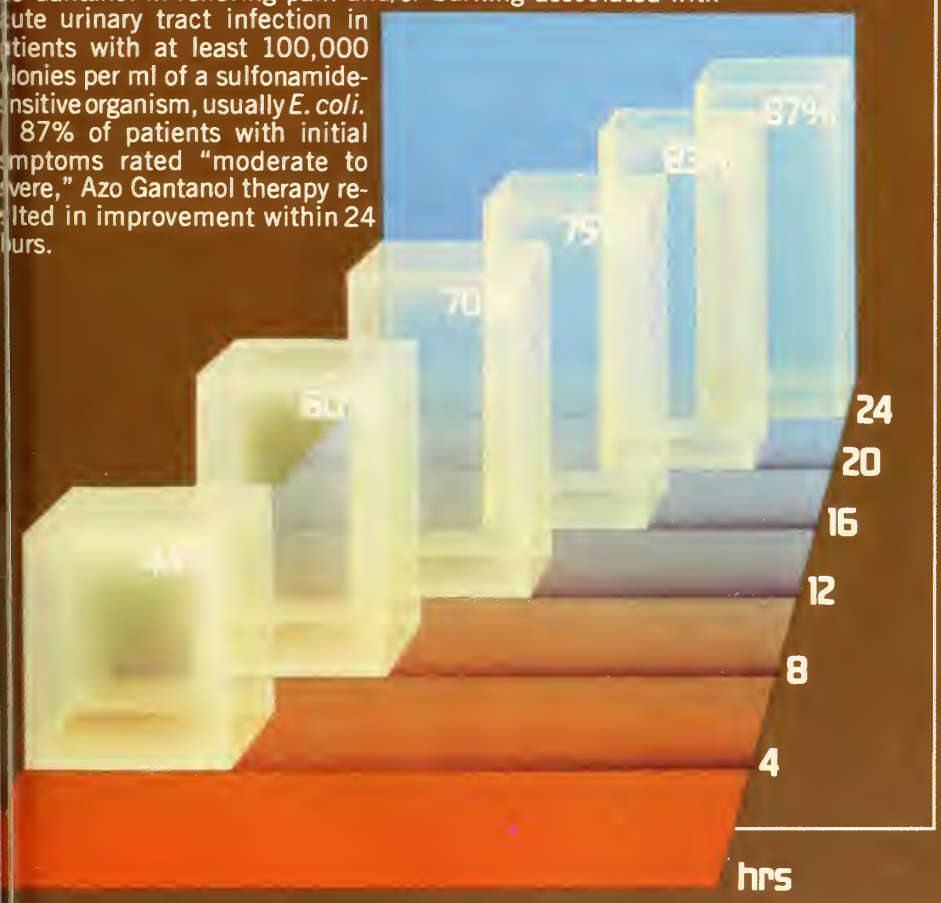

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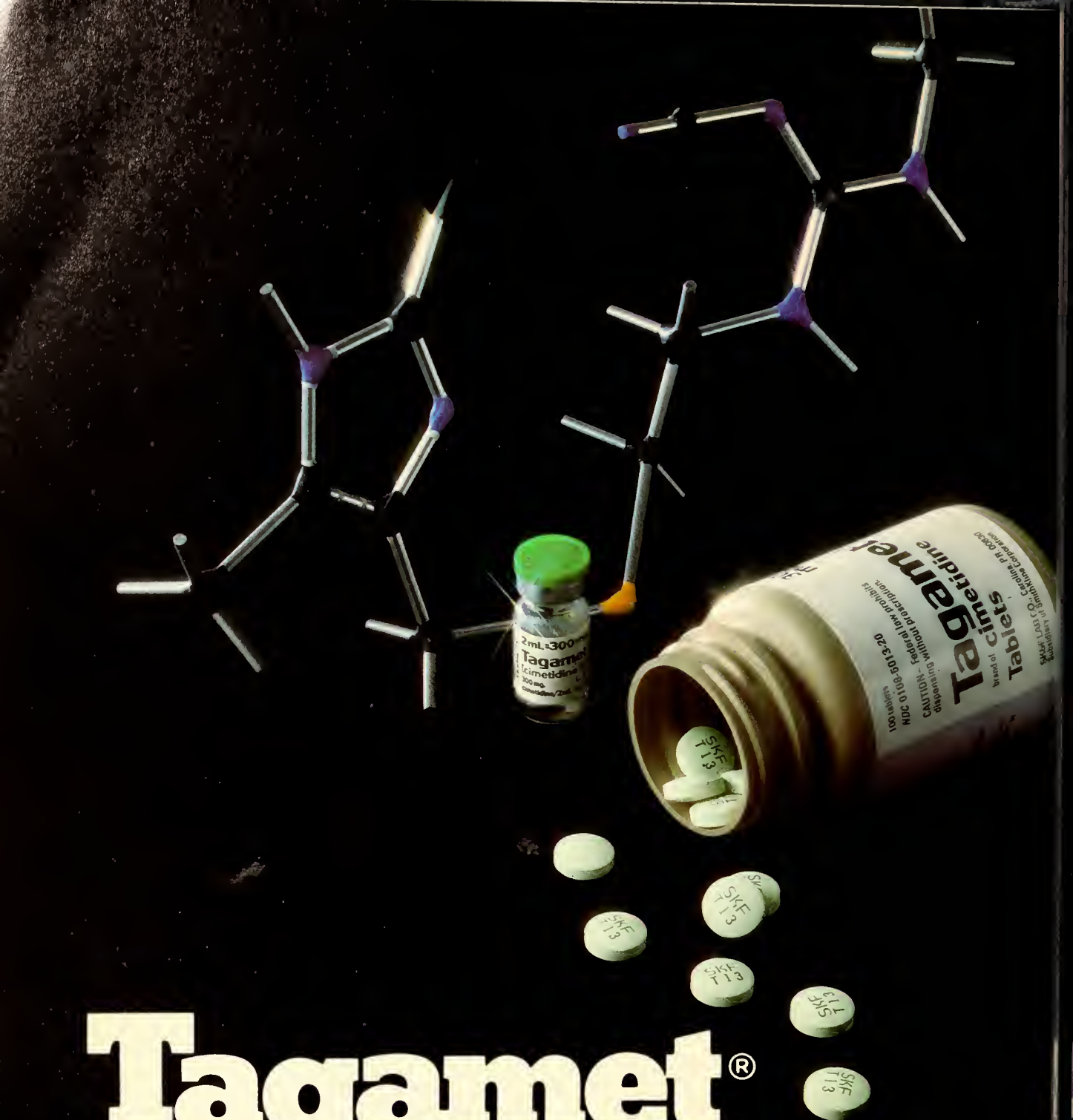

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Harrington and associates have reported a high degree of success in the management of 323 patients with 375 pathological fractures or impending fractures by local tumor resection and internal fixation supplemented by intramedullary methyl methacrylate instillation. One hundred and thirty-nine patients had metastases from carcinoma of the breast, 142 metastases from other tumors, and 42 myeloma or lymphoma.

The mean survival for the 210 patients who had undergone operation two years or more before final evaluation was 15 months. Ninety-four per cent of the patients who were ambulatory before the fracture regained the ability to walk. There were four failures of fixation and six functionally poor results. While 20 patients died within four weeks of surgery, the remaining benefited in terms of pain relief, improved mobility, and ease of nursing care.

Of the 375 lesions treated, 238 were in the femur, 18 in the acetabuleum, 20 in both the head and neck of the femur and the acetabulum, 65 in humerus, 32 in the tibia, and 2 in the ulna. In each case, following excision of all structurally inadequate bone, internal fixation or appropriate prosthetic replacement was carried out followed by reinforcement with methyl methacrylate cement. Fixation was carried out for impending fracture in 63 cases, including 52 of the femur.

Twenty-five per cent of the patients had preoperative irradiation and 63 per cent postoperative irradiation of the fracture site for control of pain and local tumor growth. The prognosis for survival of patients with pathological fracture secondary to metastatic breast cancer is in general much better than that for other metastatic lesions.

Local irradiation, while preventing tumor progression, also interferes with union of the fracture unless there is rigid internal fixation. This frequently cannot be accomplished by conventional methods after irradiation, but was here achieved in these cases by the use of methyl methacrylate.

There was no evidence in this series that the presence of methyl methacrylate within the medullary canal interferred with union, and no adverse effects were evident even in the presence of large volumes of metal with the resulting intense secondary irradiation produced locally. Further, there was no indication that secure fixation of a pathological fracture procured by metal and cement will eventually fail.

This method appears to have proven itself rather definitely in a series of significant size. While life will be made more tolerable by improved mobility and suppression of local pain, there is as yet no evidence that survival time will be increased appreciably in these unfortunate patients. Nevertheless this is an advance of considerable value.

Reference

Harrington KD, Sim FH, Enis JE, et al: Methyl methacrylate as an adjunct in internal fixation of pathological fractures; experience with 375 cases. *J Bone Joint Surg, Am* 58:1047, 1976.

Did You Know?

In 1812 the Rhode Island Medical Society was authorized by legislative enactment (Section 7 of "An Act to Incorporate Certain Physicians and Surgeons by the name of The Rhode Island Medical Society") to exercise full power and authority to examine physicians and surgeons desiring to practice in the state. The Society held this power for 83 years, until 1895.

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Ancillary Charges Problem Won't Go Away

At the risk of being a Johnny One-Note we shall again address the problem of overutilization of ancillary services. A recent issue of *Mount Sinai Grand Rounds*[1] was devoted to the problem of hospital costs. A case was described of a 60 year old male who was admitted because of a 40 pound weight loss, a hard mid-abdominal mass, and several hard nodules in the prostate. During 17 days of hospitalization eight CBCs revealed a normocytic anemia and no other significant abnormalities. Six SMA6 and 12 profiles revealed a mildly elevated blood sugar, an occasional slight decrease in sodium, an increase in alkaline phosphatase, and a borderline reduction of serum albumin. Four sedimentation rates were normal, as was an immunoelectrophoresis. Barium enema revealed an extrinsic mass. Cystocopy and biopsy confirmed a carcinoma of the prostate invading the bladder. Ultrasonogram showed paraaortic nodes. The patient was scheduled for orchidectomy, estrogen therapy and prophylactic radiotherapy to the breasts, but left the hospital against advice.

The total charges for the 17-day hospitalization culminating in a diagnosis of inoperable cancer of the prostate invading the bladder were $6,668. Of this amount $3,520 were for room charges, while ancillary charges accounted for $3,148.

The case is presented by the authors as a good example of unnecessary tests. The abuse in ordering eight CBCs and six SMA6 and 12 profiles is self-evident. The four sedimentation rates were deemed totally unnecessary. It was pointed out that the hospital would save $14,000 in a year if there were a 90 per cent reduction in sedimentation rates *alone*.

This couldn't happen in Rhode Island, you say? Forget it. Similar cases abound in our local teaching hospitals. Selectivity, wisdom, and economy in the ordering of tests and procedures must be taught. The teaching should begin in medical school and should be intensified at the resident level. A funded program in such teaching has been initiated at the University of Oregon. Our compact city-state with a well-integrated group of university teaching hospitals offers an ideal opportunity to initiate such a program in Rhode Island.

(For more on this subject see page 325)

Reference

[1]Chalmers TC, King F: The costs of medical care; problems and remedies. *Mount Sinai Grand Rounds*, Jun 78.

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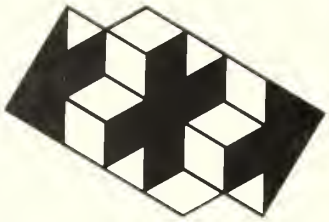

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Editor's Mailbox

Doctor Marshall N. Fulton

To the Editor:

I was indeed happy and proud to have the tribute to Marshall *(Rhode Island Medical Journal,* May, 1978) so very well and tastefully presented. I should like to thank you and your staff for bringing all this to pass.

I feel that Marshall, who was a fussy person and wanted to be sure that everything was always done correctly, would be very satisfied with the way both articles appeared.

Mary Howe DeW. Fulton

Treatment of Diabetic Retinopathy

To the Editor:

Recently I read the excellent review by Doctor Charles Kahn on the "Present Status of Diabetic Retinopathy in Rhode Island" *(Rhode Island Medical Journal,* March, 1978).

I must disagree, however, with several of his statements on the role of hypophysectomy in the treatment of diabetic retinopathy. I believe that hypophysectomy and photocoagulation are not competitive methods, but rather should be used in conjunction with each other.

With the development of a microsurgical technique of dissection and the advent of televised fluoroscopy, the transphenoidal approach to the pituitary gland is now a standardized benign procedure and should not be considered as a procedure of "great magnitude."[1]

Hypophysectomy was abandoned after early enthusiasm because of disappointing results due to indiscriminate use of the procedure. Recently, however, better indications have been established, and its value in the treatment of proliferative retinopathy has been the subject of many reports.[2,3]

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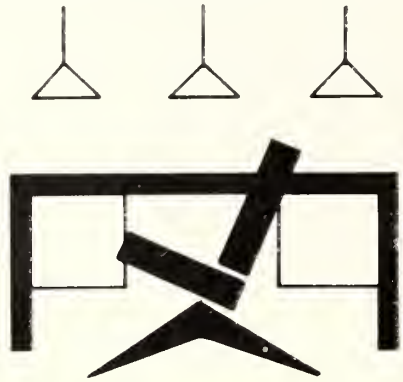

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Patients with a non-proliferative retinopathy are not candidates for hypophysectomy. A young patient with rapidly progressive proliferative retinopathy and progressive visual loss remains a good candidate for hypophysectomy with photocoagulation as an adjuvant. With present micro-techniques, the morbidity of the procedure in the hands of experienced surgeons should be minimal.

Toussaint A. Leclercq, MD

References

[1]Hardy J: Transphenoidal microsurgery of the normal and pathological pituitary. *Clin Neurosurg* 16:185-217, 1969.

[2]Cullen JF, Town SM: Diabetic retinopathy. Review of 82 patients presenting with unilateral blindness. *Trans Ophthalmol Soc UK* 95(4):484-486, 1975.

[3]Kohner EM, Hamilton AM, Joplin GF, et al: Florid diabetic retinopathy and its response to treatment by photocoagulation or pituitary ablation. *Diabetes* 25(2):104-110, Feb 76.

o

ONE SENTENCE ESSAY

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. . . Statement by the Federation of State Medical Boards.

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— REMINDER —

". . . Those who devote themselves to practice without science are like sailors who put to sea without rudder or compass and who can never be certain where they are going. Practice must always be founded on sound theory."

Leonardo da Vinci

Attend CME activities.

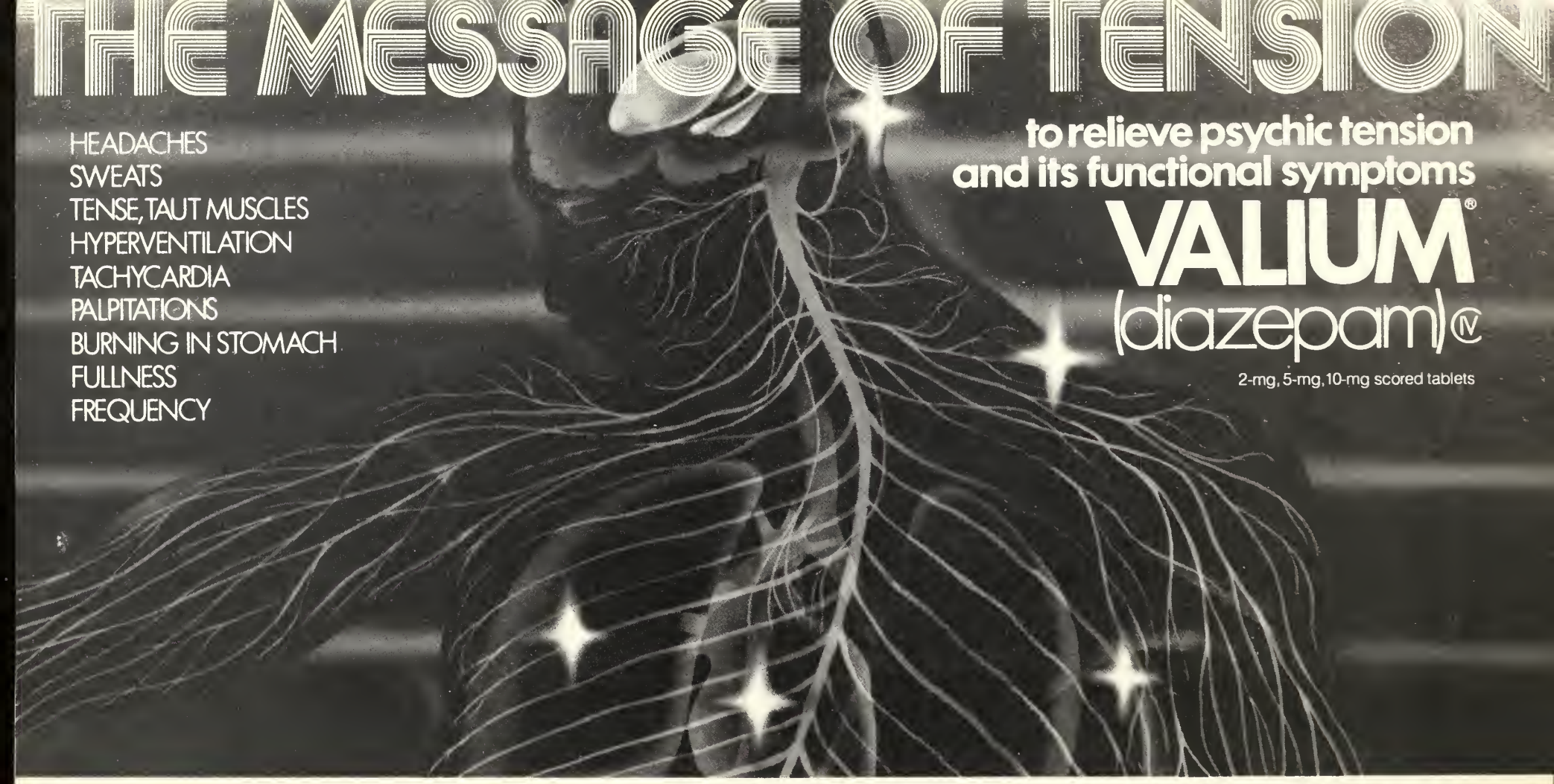
Rhode Island Medical Journal

October, 1978 Vol. 61, No. 10

ange Office

Prevention of Coronary Disease in Rhode Island

See Page 368



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Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

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hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.

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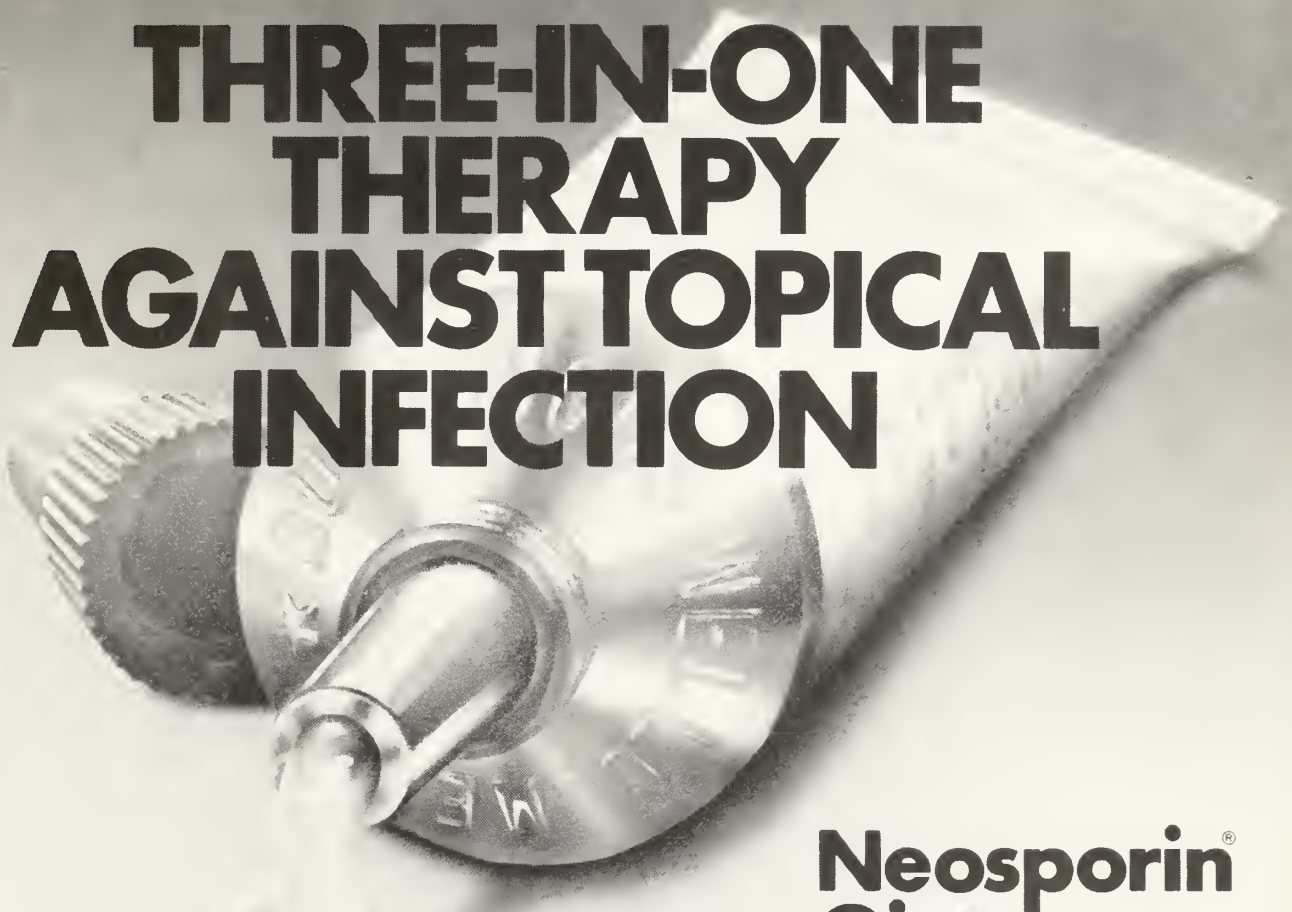

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PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

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Rhode Island Medical Journal

OCTOBER, 1978 Volume 61, No. 10

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A Message From The Dean

A Profile Of The New Class Entering The Brown Medical School

On September 14, 1978, 62 men and women began their formal medical education at Brown University. This incoming group of freshman medical students represents the eighth class to enter the medical program since Brown has been accredited as a four year medical school. Some information about these future physicians is summarized below; and, for purposes of comparison, analogous information about the preceding Brown medical class (which entered in September 1977) is also included:

1. *How old are they?* This is not a terribly important factor except as it may reflect on any variance upon the conventional age of medical school admission (ie, 21 years). The average age for the Brown class entering in September 1977 was 22.2 years; the average age for the class entering in September 1978 was 22.7 years. Four students in the 1977 group and four in the 1978 group were 30 years of age or older. With so many well-qualified, young applicants seeking admission to the US medical schools, some explanation must be advanced to justify the acceptance of older individuals. In general terms more mature students frequently bring enriched life experiences and a somewhat more humane perspective to a medical class, thus contributing to the total educational experience of all of the students. These eight specific students are unusually gifted persons, and, prior to their admission to Brown medical school, were each engaged in occupations and studies which the Admissions Committee felt were of particular value in preparing them for the future practice of medicine. The first of these students had been awarded an advanced degree in biomedical engineering, had taught chemistry, and in her spare time had worked in a community health center for Spanish-speaking people. The second student was an administrator at a New England college and was concurrently involved in advanced biochemical research. The third student was recently awarded a doctorate degree (at another New England university) in the chemistry of vision and had been a faculty member of yet another New England college. A fourth student was a science teacher at one of the secondary schools in Providence. The fifth was chief of microbiology (with a prior doctorate degree) at a leading New England hospital. The sixth student had worked for years in an architectural firm concerned specifically with environmental impact of building design. The seventh student was a registered nurse in charge of an intensive care unit in a New York hospital. The eighth had worked in a comprehensive hypertension detection program. These students had recently resumed their formal education in order to meet the current prerequisites at Brown.

2. *Where are they from?* The students entering in 1977 came from seven states, the District of Columbia, and one foreign country. The class beginning in September 1978 showed a greater degree of geographic diversity, coming from 18 separate states and the District of Columbia (Table 1). Ten of the 62 students in the current class are from states west of the Mississippi River. Rhode Island, as with virtually all previous classes,

TABLE 1

States of Residence

	Class entering in: Sept., 1977	Sept., 1978
Rhode Island	22	22
Massachusetts	2	6
Connecticut	3	1
New York	21	10
New Jersey		2
Pennsylvania	4	3
Delaware		1
Maryland	4	
District of Columbia	1	2
Virginia		1
North Carolina		1
Florida		2
Mississippi		1
Missouri		1
Arkansas		1
Kansas		1
Illinois		1
Oregon		1
California	3	4
Alaska		1
Foreign	1	

TABLE 2

Undergraduate Colleges

	Class entering in: Sept., 1977	Sept., 1978
Brown University	40	34
Providence College	4	4
University of Rhode Island	3	4
Rhode Island College		1
University of New Hampshire		1
Williams College	1	1
Harvard University		1
Wellesley College		1
Simmons College		1
Boston College		1
Boston University	1	1
Trinity College		1
Yale University	2	
Brandeis University	1	
Cornell University	2	2
Vassar College	1	
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Columbia University		1
U. of Prince Edward Island		1
University of Pennsylvania	1	
Howard University		1
Washington & Lee University	1	
Federal City College	1	
Spelman College		1
Notre Dame University		1
Stanford University		1
University of California		2

TABLE 3

Channels of Admission to Brown Medical School

	Class entering in: Sept., 1977	Sept., 1978
Medical Education Program (continuum)	36	32
Early Identification Program	5	4
Regular Admission	19	24
Repeating Year	1	2

represented the largest single geographic source of students.

3. *Where were they educated?* Table 2 summarizes the places where these medical students obtained their undergraduate education. The majority were graduates of Brown University (since most of our students were participants of the seven-year Medical Education Program continuum).

4. *Through what channels were they admitted?* There are multiple portals of entry to the Brown medical school. Over half of the students are admitted to a continuum program directly from high school (referred to as the Medical Education Program). Some are admitted through an Early Identification Program, currently reserved for gifted students from the University of Rhode Island and Providence College, and some enter through the conventional admissions process. Table 3 outlines the various sources of these two consecutive classes.

5. *Other characteristics:* Of the class entering in 1977, 31 per cent were women, and of the class entering in 1978, 28 per cent were women.

On average our students did somewhat better than the national mean of *accepted* US medical students taking the Medical College Admission Tests.

At best, this kind of information provides us with but a meager description of the new cadre of medical students at Brown and yields no hint as to how many will contribute materially at some future time to the profession and to the community. We know very little about these characteristics which permit us to predict future professional performance; our testing instruments are too crude to provide us with reliable means of identifying persons with unrevealed gifts for inspired medical practice or research. The Brown University Medical Admissions Committee (this year chaired by Doctor John T.

Barrett) has just concluded a day-long meeting for the purpose of discussing admissions philosophy and selection procedures. It was the opinion of the Committee that grades and test scores provide only a threshold for determining whether or not an applicant can survive the academic rigors of four years of medical education. These numeric values, above a certain level, do not seem to correlate with outstanding clinical or investigative abilities exhibited later in life. It was therefore concluded that the intuitive impressions of a sensitive and knowledgeable interviewer remain our most reliable basis for judgment. Accordingly, at Brown university we continue to have a Medical Admissions Committee heavily populated by practicing physicians.

Stanley M. Aronson, MD
Dean of Medicine
Brown University

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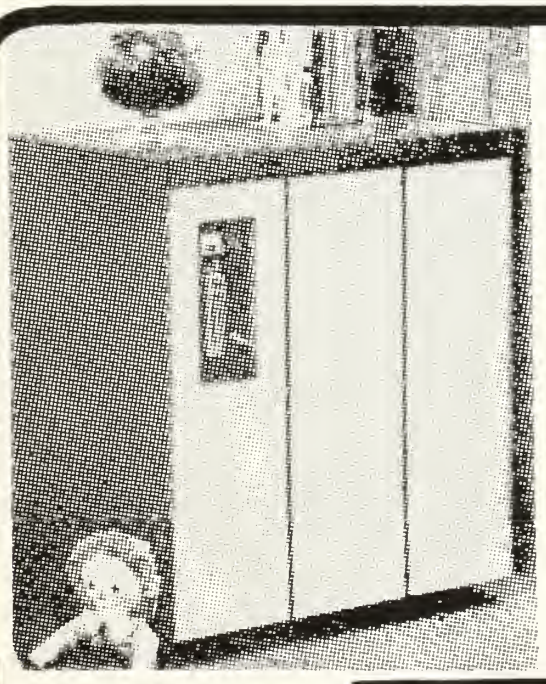

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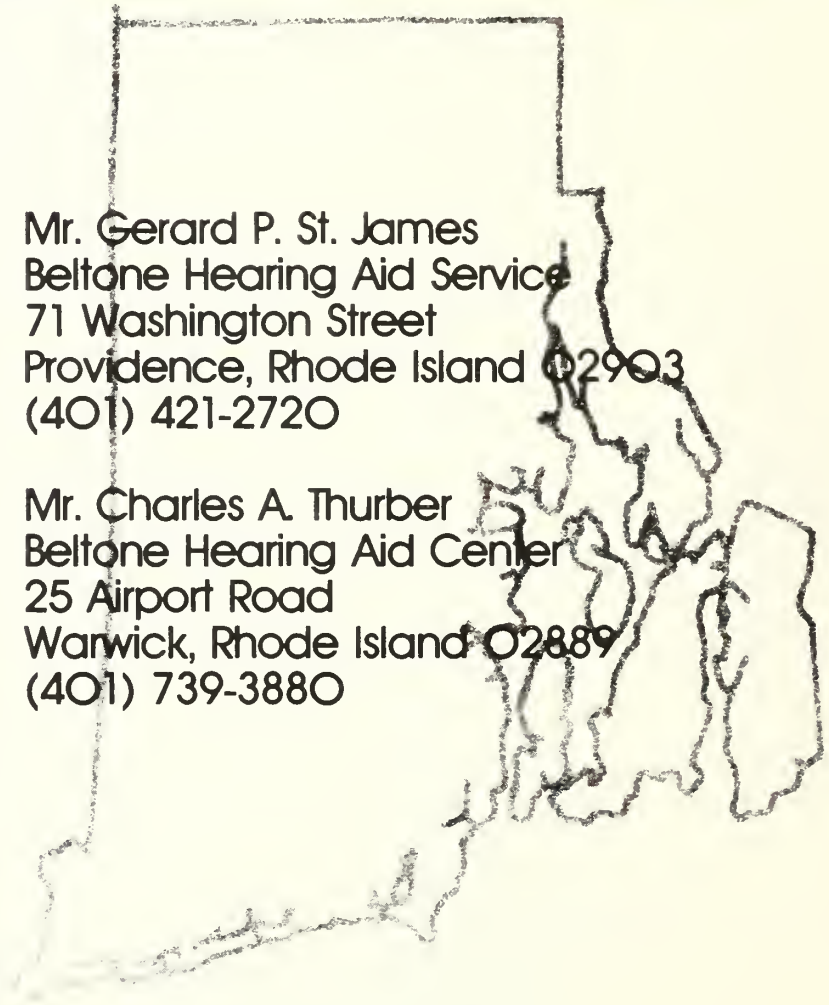

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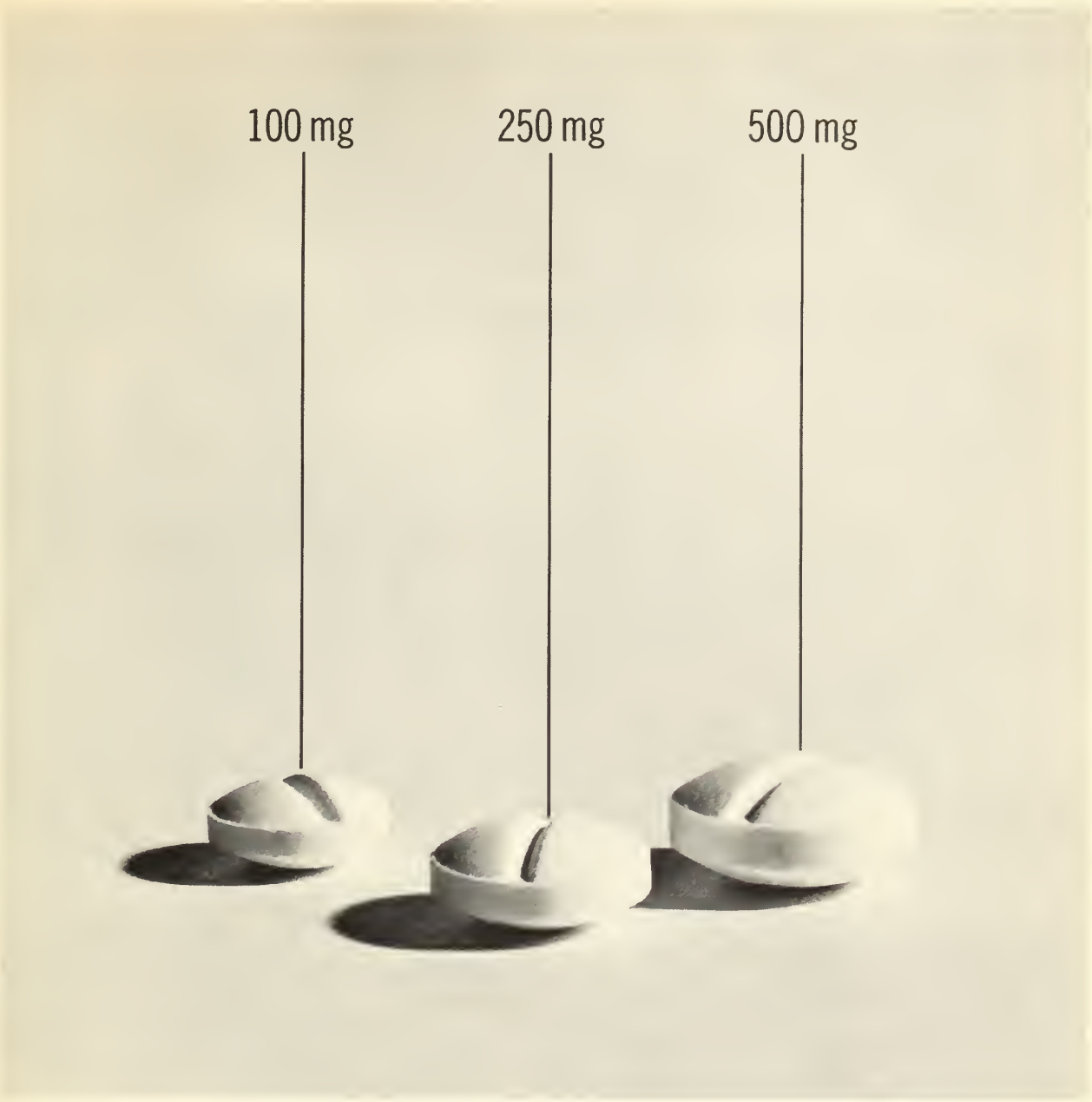

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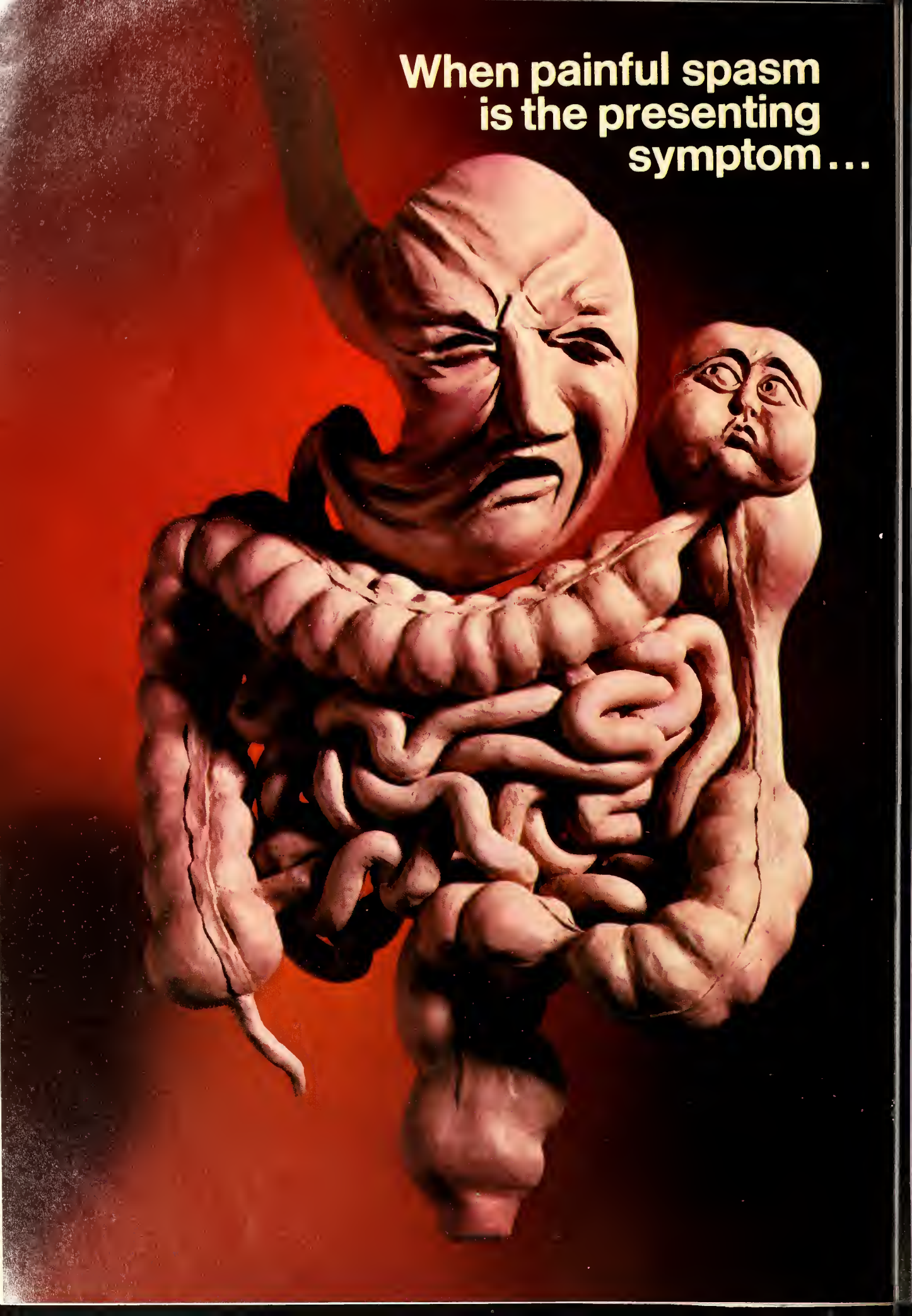
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King, J.C. and Starkman, N.M.: Evaluation of an antispasmodic. Double-blind evaluation to control gastrointestinal spasms occurring during radiographic examination. A preliminary report. Western Med 5:356-358, 1964

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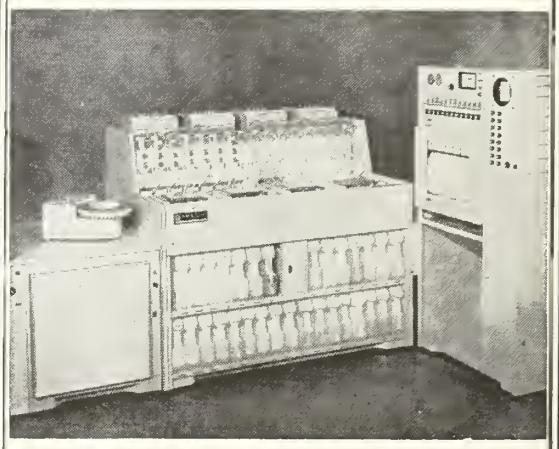

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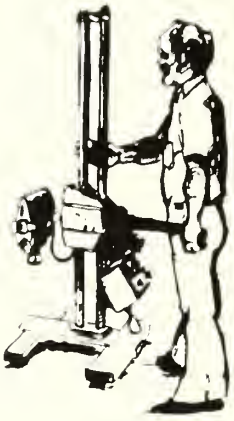

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Can We Prevent Coronary Disease In Rhode Island?

The State Is Ideally Suited For A Demonstration Trial Of The Effectiveness Of Lifestyle Modification

By Richard A. Carleton, MD

Physicians and other health professionals of our state have shown increasing awareness, concern, and expertise in disease prevention. A major challenge for disease prevention in the 1980's will be the prevention of diseases of adult life. With vigorous application of our knowledge and our abilities, we can attenuate the epidemic of heart disease in our country and our state.

The environment, the genetic makeup of people, lifestyles, and the health care delivery system all influence the health of our population. Genetic predisposition is not presently alterable. The health care delivery system deals well with disease after morbidity has occurred, but it is a costly process which often cannot reverse the disorder. The environment is gradually undergoing change as health professionals and others recognize the deleterious ecological and health aspects. It is in the realm of changing life styles of our population that major changes must be made in our societal behavior. With a concerted effort at re-educating the population about health-giving behavior, we can expect realistically to curtail sharply the incidence and impact of cardiovascular disease.

RICHARD A. CARLETON, MD, *Professor of Medicine, Brown University, Providence, Rhode Island; Chief, Cardiology Division, The Memorial Hospital, Pawtucket, Rhode Island.*

The State of Rhode Island shares with the other forty-nine states a pandemic of atherosclerosis related disease. Cardiovascular disease, largely attributable to atherosclerosis, produced 54 per cent of all deaths in the state during 1976[1]. Diseases of the heart are associated with an annual death rate of approximately 413 per 100,000 population—a figure nearly twice that for cancer, the next most common cause of death.

The cause of atherosclerosis and of coronary heart disease is not known. Many observations have indicated that the cause is multifactorial. Important among these factors are elements transmitted from parent to child. The precise nature of the transmission mechanism is not clear. Presumably this familial tendency reflects, in part, genetic transmission of α-lipoproteins and of their attendant hyperlipoproteinemias.[2] This is most clearly manifest in the apparent monogenic hyperlipoproteinemia commonly spoken of as Frederickson type II-A. Other hyperlipoproteinemias are more complex and less clearly relate to expression of a single gene. Other factors producing a propensity

for or relative protection from coronary artery disease transmission within families is not clear. Suffice it to say that these factors are presently immutable. It may ultimately be that increased awareness of this phenomenon in the population may encourage counselling prior to marriage or production of Progeny in families where premature coronary artery disease has been prevalent.

However, there are many other factors which, overlaid on the inherited traits, clearly modify the risk of populations or of individuals developing manifest coronary artery disease. Those which have apparent major impact include the following:

1. Serum cholesterol; dietary lipid quantity and quality.
2. Prevalence, detection, and control of hypertension.
3. Sedentary-Active lifelong habits.
4. Prevalence and intensity of the smoking habit.

Each of these elements is subject to modification by the motivated person. Each can be modified within a society by a concerted effort.[3-6]

Many other phenomena have been recorded as associated or minor "risk factors" for coronary heart disease. These are, however, less prevalent in society, less compelling in terms of the evidence indicating a pathogenic role, or less modifiable.

The evidence that these major "risk factors" are cooperativley culpable in the generation of coronary heart disease is predominantly epidemiologic.Major studies of this type have been those conducted in Framingham, in Tecumseh, in Chicago, and in other places.[7] [14] Each of these is effectively consonant in demonstrating that the frequency of coronary heart disease generally parallels dietary intake of total fat and dietary intake of relatively saturated fat.[15] [16] These epidemiological studies have also demonstrated the impact of hypertension and of smoking as indicators of the population risk of coronary heart disease.

. A strong statistical association has been demonstrated between the levels of serum cholesterol and the frequency of coronary heart disease.[10] [17] In turn, serum cholesterol reflects both presumed genetic factors relating to endogenous production and transport of cholesterol and an important effect of exogenous lipid intake. Secondary effects on blood lipids from physical activity[4] and obesity[18] [19] have also been demonstrated.

Substantial bodies of information indicate that atherosclerosis is a gradually accruing process, one which begins in the young and progresses throughout life in most members of developed and relatively affluent societies. Perhaps the greatest recognition of this came from the autopsy studies conducted on soldiers killed during the Korean conflict and reported by Enos and coworkers.[20]

No data exist as far as the writer is aware which indicate reversibility of human atherosclerosis once it is established. Yet, many major trials have been designed to cope with the problem of coronary heart disease in populations of mature and older individuals either before or after the onset of clinical coronary heart disease. In light of the lack of proved reversibility in man, preventive efforts later in life are likely to achieve at best only a slowing of progression of the disease. The benefits will in all likelihood be correspondingly reduced if efforts are restricted to the mature population in which atherosclerosis is already likely to be well advanced.

Lipids, Diet, and Coronary Heart Disease

The hypothesis that dietary habits strongly influence the risk of coronary heart disease rests on broad factual basis. The first type of information is that contained in international studies of the dietary composition and the incidence of coronary heart disease. This evidence has been well reviewed.[9] [15] Briefly, nations, with very few exceptions, are aligned in a roughly linear fashion in terms of the incidence of coronary heart disease and the national intake of total lipids and particularly of animal and dairy-origin lipids. Based on the available data, the Select Committee on Nutrition and Human Needs of the United States Senate has recently released a set of dietary goals for the United States.[21] In affect, these dietary goals accept the "diet-heart hypothesis" and are in keeping with the dietary targets of the present project. They include, first, a compensatory increase in carbohydrate consumption with an increase in consumption of complex carbohydrates in lieu of simple carbohydrates. The second goal is to reduce the overall fat consumption of the United States population from ap-

proximately 42 to 30 per cent of total energy intake. The third goal is to reduce saturated fat consumption to approximately 10 per cent of the total energy intake with a compensatory increase in polyunsaturated and monounsaturated fats. The fourth goal, that of reducing cholesterol consumption to approximately 300 mg a day, reflects the small but definite influence of dietary cholesterol on serum cholesterol. These steps reflect the conviction of the committee that diet influences blood and body lipids and that they, in turn, modify the risks of atherosclerosis. The fifth goal, that of reducing sugar consumption by approximately 40 per cent to constitute approximately 15 per cent of total energy intake, relates predominantly to implications regarding tooth decay, but with little apparent impact on the atherosclerosis problem. The sixth goal pertains to sodium consumption, a change which reflects the growing concern over the association between high sodium intake and hypertension is well recognized as relating closely to the frequency of atherosclerosis and of coronary heart disease.[23]

This Senate committee suggests that attainment of the national dietary goals will affect a 25 per cent reduction in the frequency of coronary heart disease.

The Select Committee on Nutrition and Human Needs report has generated substantial and enthusiastic support, but has also resulted in beleaguered outcries of anguish from small segments of the economy, particularly those devoted to production and sale of saturated lipids. Among the most vociferous outcries have been those from the diverse dairy councils of the country.[24] [25]

It is clear that a number of modifications of health habits of our nation will cause attendant dislocations of industrial output. Yet, as has been recently argued persuasively by the Secretary of the Department of Health, Education and Welfare, the health of the nation must take precedence in these controversies.

Many studies have been concerned with lowering serum cholesterol by dietary or by pharmacologic means to determine any effect on the frequency of new coronary artery occlusions. Some of these trials have been directed to primary prevention, but most have concerned secondary prevention. The results have been carefully reviewed.[26] [28]

In general, the results have not been impressive. Yet, again it must be recalled that efforts at modifying cholesterol have been carried out predominantly in populations for whom "the die is already cast", people advanced in years and usually with established disease. Probably the most careful study is that of Turpeinan and his associates[29] [30] conducted in two Finnish hospitals. Dietary lipid composition was the experimental variable. The study has admitted flaws, but appears to demonstrate a significant difference in the incidence of coronary heart disease episodes in a middle aged population. A somewhat similar study conducted in Wadsworth Veterans Administration Hospital[31] demonstrated a significant difference in coronary artery occlusions in the group receiving a diet low in unsaturated fat and cholesterol and high in polyunsaturated fat. The study failed to provide a valid test of the diet-lipid-heart hypothesis because the control group has a much higher frequency of heavy smoking. The combined effect of smoking and diet may indeed be additive; the Wadsworth study bears directly on the purpose of the present proposed project. The Wadsworth study also suggested that cancer was more frequent in the diet-modified group,[32] a feature which has not been confirmed by others.[33]

A third major trial in primary prevention was the New York Anti-Coronary Club study.[34] This trial used a "prudent diet", had a controlled population much different from the test population, and experienced a rather high drop-out rate. Despite these problems, the study showed a reduction in new coronary occlusions in the experimental group.

There are presently under way three major trials in primary prevention. The first of these, that of the Lipid Research Clinic,[35] compares diet alone with diet plus cholestiramine in a hypercholesteremic population. Apparently it was concluded that since diet had a sufficiently demonstratable efficacy it could not be ethically withheld from the control population. This, in turn, may diminish the likelihood of attaining significant results in the trial. The second trial conducted by the Multiple Risk Factor

Intervential Trial, is a multicenter study.[36] A somewhat similar trial is being carried out under the auspices of a Euopean collaborative group. Results of this trial are not yet available.[37]

No trial beginning with the young and of sufficient duration to provide results pertinent to the question of primary prevention throughout life has been reported. However, each effort at primary prevention, despite problems, has provided hope of effectiveness.

Many trials of secondary prevention through modifying blood lipids have been conducted, but most have included relatively small numbers of subjects. Some of these have involved diet, some drugs, and some both. One study involving diet alone is that reported by Leren from Oslo. There was an initial decrease in new coronary artery occlusions during the first five years. After a total of eleven years, however, mortality was unchanged in the experimental group.[38] In a somewhat similar study the British Medical Research Council randomly allocated patients to two groups, one placed on an experimental diet consisting of reduced saturated fatty acids and enriched with polyunsaturated fatty acids, and the other as controls. There were no significant differences in the frequency of new coronary artery episodes or in the mortality during the experimental period as between the two groups.[39]

Pharmacologic treatments, often combined with diet, have been tested in many studies. Clofibrate alone has been used in at least two studies. One study[40] showed no change in mortality or incidence of recurrent myocardial infarction, but did not show a cholesterol-lowering effect. The other demonstated decreases both in cholesterol levels and in mortality.[41]

The United States Coronary Drug Project was a major trial which has proved a model for subsequent multicenter trials.[42] In this trial estrogens and d-thyroxine were demonstrated to have deleterious effects. Clofibrate and niacin clearly reduced serum cholesterol and triglyceride levels, but mortality was not influenced.

The results of these secondary prevention trials are subject to a number of interpretations: that the diet-lipid-heart hypothesis is false; that an inadequate degree of lipid modification was accomplished; that studies conducted in persons of middle age or older who have already experienced myocardial infarction are already doomed to failure because far advanced atherosclerotic lesions exist. Therefore, I believe that secondary prevention is a worthwhile goal, and that by the same token primary prevention must begin at an early age.

Hypertension

The 1960-1962 United States Pubilc Health Service survey[43] of hypertension in the United States, revealed its incidence to be approximately 8 per cent in the population between the ages of 20 and 44, 25 per cent in those between 45 and 64, and 38 per cent in those over 65. It has further been estimated that only approximately 2 per cent, 15 per cent, and 23 per cent respectively are aware of this hypertension. Clearly there is in our society an enormous reservoir of undetected, and consequently untreated hypertension. Even among those who have recognized hypertension, the frequency of effective treatment has been low.[44] [45]

Several studies have clearly shown the pathogenic role of hypertension in coronary heart disease.[46] The precise mechanism by which the risk of coronary disease is augmented is not clear, but the phenomenon remains unchallenged. The magnitude of risk has been estimated from data from the Framingham study as ranging from a 1.5-fold increase in risk with a systolic blood pressure of 150 to a more than 3-fold increase in risk with a systolic pressure of 180 mm Hg. Moreover, it is clear that treatment of hypertension substantially modifies morbidity with either severe[57] or with moderate[48] [49] elevation of diastolic blood pressure.

Effective programs for recognition and for ensuring adequate treatment of hypertension represent an important part of a health program for our society. There is little question that an effective endeavor of this type will reduce the risk of coronary heart disease and of other morbid cardiovascular episodes in the population. Many efforts have been made to increase awareness of hypertension as a health problem.

Physical Activity and Coronary Heart Disease

Many data indicate that a sedentary lifestyle is associated with an increased risk

of coronary heart disease. It is quite clear that the individual who was once athletically inclined and who subsequently reverts to a relatively sedentary life is not protected from subsequent coronary occlusive episodes.[50] On the other hand there are several studies which indicate a primary preventive effect of sustaining a physically active lifestyle. Important among these studies are those directed at London busmen[51] (although subsequent studies[52] suggested inate differences between conductors and bus drivers, based upon differences in initial uniform size). Other studies have been conducted in railroad workers[53], rural Americans[54], and in longshoremen[54 56]. Each one has shown a lower mortality, fewer coronary artery occlusions, or both, in the physically active subjects.

A different type of study has been carried out by Morris[57] pertaining to leisure activities. This demonstated a significantly reduced incidence of coronary heart disease in those individuals who filled leisure time with physically active pursuits, in contrast to those inclined to a sedentary way of life. Similar data have been reported by Paffenberger[58]. These studies have uniformly indicated an important protective role among those who are physically active.

One of the clear consequences of "modern" society has been a reduction in caloric expenditure through physical activity as years advance. In turn, this appears to have taken its toll in the frequency of coronary heart disease morbid episodes. Reversal of this trend constitutes an important element of coronary heart disease prevention.

Smoking and Coronary Heart Disease

One of the true paradoxes of modern society is the fact that legislative mandates exist for banning substances which have been incriminated as minor carcinogens in experimental animals while subsidizing the production and, indirectly, the sale of tobacco products. Tobacco smoking is unequivocally carcinogenic; it also has the dreadful trait of augmenting the risk of the major United States killer—coronary heart disease—by two-or threefold. The data relating cigarette smoking to coronary heart disease are predominantly epidemiologic, but extremely compelling.[59 60]

Important among the studies that have demonstrated the augmenting effect of cigarette smoking on mortality from coronary heart disease have been those of Doll and Hill.[61 62] Similar data were gathered by Dorn and Kahn in a study of United States war veterans reported by Kahn.[63] Each of these studies has also clearly demonstrated a reduction in risk almost to the non-smoker level within about two years following cessation of smoking.

Unfortunately, truly effective strategies to prevent smoking in the young have not been fully developed. Yet, based on available data, a multiple educational approach to this problem clearly is indicated. Such an approach has recently been announced by HEW Secretary Joseph A. Califano, Jr. as a national priority.

Wilhelmsen and associates have designed and are carrying out a multiform primary prevention trial in Goteberg, Sweden. This trial has demonstrated, as have other efforts, the effectiveness of anti-smoking efforts in a primary heart disease prevention program.[64]

The entirety of the multifactorial cause of coronary heart disease remains obscure. However, enough is currently known to conclude that there are several modifiable factors in the population at large, each of which holds major promise for reducing the risk of coronary heart disease.

The Challenge for Rhode Island

Modification of these lifestyle factors promises to result in substantial reduction of coronary heart disease incidence and impact. At the present time appoximately 650,000 deaths annually are caused by this pandemic in our country. There has been a slight reduction in recent years, perhaps attributable to increased population awareness of the import of these "risk factors". It seems clear that now is the time to conduct a major demonstration trial of the effectiveness of heart health factor modification in all ages of the population. The State of Rhode Island is optimally suited to this task.

The time required to demonstrate changes in morbidity and mortality due to atherosclerosis will be relatively long, but it is to be anticipated that the gains from a forceful program aimed at modifying the lifestyle behavior of our state population will be

substantial. It has been estimated that a reduction of 40 to 50 per cent in the mortality of coronary heart disease can be achieved within one and one-half decades by such an approach. An accompanying significant increment in life expectancy will accrue.

This approach must include education directed at all segments of our population about better ways to live. These better ways to live must include establishing lifelong dietary habits beginning in the neonatal period. It must include stimulating increased awareness of blood pressure as a silent health problem. It must include continued strong and diversified efforts to sharply curtail smoking among our population. It must include the development of physical activity as a way of life to replace the increasing indolence which our society has developed in recent decades.

This type of program must be a collaborative effort between physicians and educators and must involve all sections of the population. Physicians of the state must recognize that they are role models of health as well as providers of health care. With a concerted effort of the health care professionals and the educators of our state, the pandemic of coronary heart disease can be sharply curtailed and longevity can be increased.

Acknowlegement

I should like to express my grateful thanks for the outstanding assistance provided in this work by Mrs. Joan Rowland.

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Child Abuse And Neglect Update

The Prevention Of Neglect Or Abuse Is Obvious Goal

By John S. O'Shea, MD

In spite of a fairly recent review of the topic in this Journal (Jaso, H, 58:474-5, 1975) and a profusion of articles here and abroad, a summary of the several current Rhode Island developments in the field of child abuse and neglect may be helpful.

Recognition and Reporting

The parents most apt to mistreat a child are those undergoing an emotional or financial crisis who do not have the usual support provided by relatives or close friends. Young single parents are frequently in this predicament. The child most apt to be mistreated is the one regarded by the parents as "imperfect": mentally or physically abnormal, born with the wrong sex or birthday, or not wanted at all. As last revised in 1976 Rhode Island state law requires that anyone suspecting that child abuse or neglect has occured or is occurring must make a verbal or written report to the Protective Services Unit (PSU) of the division of child welfare of the Department of Social and Rehabilitative Services (SRS). This report can be anonymous; the reporter is immune from prosecution for making the report provided he or she acts in good faith. Although agencies dealing with children (especially schools and hospitals) often establish procedures whereby the one suspecting child abuse or neglect tells a supervisor who in turn makes a report to PSU, it must be stressed that the basic obligation that the report be made rests with the one suspecting. A supervisor should not penalize an employee for making a report directly to PSU, especially if the employee has tried unsuccessfully to follow his or her agency's procedure. General awareness of child abuse and neglect and of Rhode Island state law on this subject can be expected to continue to increase because of statewide training programs run the past two years by the Department of Social and Rehabilitative Services (SRS) for teachers, social workers, police officers, lawyers, judges, nurses, and physicians.

To complement this increased awareness, a statewide "hotline" was initiated in May of this year, whereby anyone may receive information about or report suspected child abuse or neglect at any time. This service is run by the Department of SRS, with Pawtucket Family Service contracted to assume responsibility for its day-to-day operation. Although reports to PSU have increased about tenfold during the past decade (a trend that is expected to continue at least in the near future because of the

JOHN S. O'SHEA, MD, *Director, Division of Ambulatory Pediatrics, Rhode Island Hospital, Providence, Rhode Island; Assistant Professor of Pediatrics, Brown University, Providence, Rhode Island*

statewide training programs and "hotline"), it is unknown whether child abuse and neglect are in fact increasing in Rhode Island. In fact, the general improvement in the economy and the departure of many Navy personnel from Rhode Island would seem to indicate that the actual *occurance* may be decreasing, since child abuse and neglect are often *reported* more in times of financial stress and among populations such as the Navy's (i.e. young and frequently separated from usual sources of support).

Evaluation and Acute Therapy

These two topics are considered together because the evaluation provided by social workers of the PSU often provides the family with the opportunity to relate to a source of emotional support, always an intregal part of the acute therapy. Although only a minority of the children in these families need acute hospital-based medical care (usually neurosurgery, or orthopedic or abdominal surgery), hospitalization should usually be arranged, since it offers a "hospice" that is usually uniquely able to provide the child acutely with more safety than either a foster home or his or her parents. Although traumatic and costly to the family, this temporary separation of the child from the parents often allows the parents some rest and the opportunity to resolve the crisis that might well have been the immediate antecedent of the maltreatment. Parents are usually not resistant to their child's hospitalization, but seem relieved that their difficulties have been appreciated and may even be helped. Rhode Island state law actually provides that physicians can hospitalize for up to 72 hours children suspected of abuse, sexual molestation, or failure to thrive without either a court order or parental permission. Since 1974 when this 72-hour period of hospitalization was provided by law, most children have returned directly from the hospital to their parents' homes, whereas in previous years most where placed from the hospital at least temporarily in foster homes supposedly because the PSU social workers did not believe that they had been able to establish rapport with the parents during the extremely short periods that the children had been hospitalized. Even when a reported child is not hospitalized, recent increases in staffing allow the PSU to become involved with a family suspected of abuse or neglect usually within 24 hours of receipt of a report.

Long-term Therapy

The prevention of further neglect or abuse is the obvious goal. Although documentation is somewhat faulty, it appears that continuing support to the family (especially in times of crisis) is fairly effective. In Rhode Island, PSU provides this support as long as it seems needed, assisted by various private citizens (e.g. "Parents Anonymous" groups of similar parents) and in East Providence by a program at the Emma Pendleton Bradley Hospital. The long-range effectiveness of the support provided within Rhode Island is unknown, however, especially as regards the type of parents reported children become. To help futher assess the outcome of various long-term programs offered in Rhode Island and to compare these to approaches found in other parts of our country, it is hoped that Rhode Island Hospital (which reports about 60 children annually to PSU, many more than any other hospital in the state) will be able to begin a program with the collaboration of the Department of SRS and Bradley Hospital. In this program Children reported to PSU would be *randomly* assigned to have their parents receive ongoing support (in addition to that provided by their private physicians, PSU, and peer groups like Parents Anonymous) from (a) hospital-based social workers, (b) "lifelines" recruited from the families' neighborhoods to provide continuing support under the supervision of hospital-based social workers, or (c) the staff of the current child-abuse program at Bradley Hospital. Over a period of many years these various approaches would be analyzed from the points of view of the outcome of the participating families, the satisfaction of the various therapists, and monetary cost.

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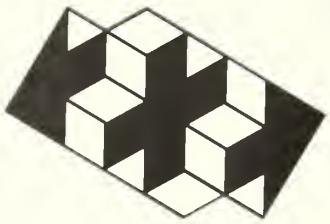
Rhode Island Hospital
Providence, RI 02902



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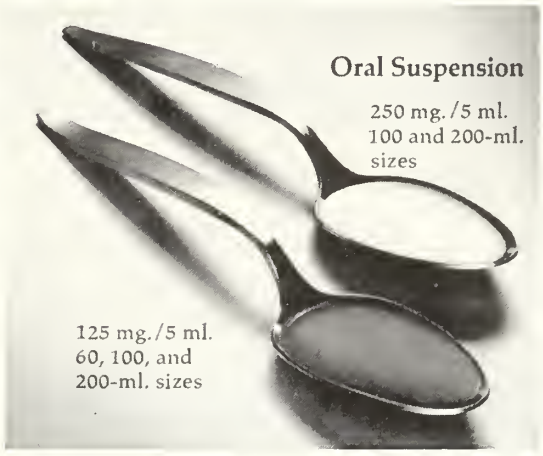

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The Treatment Of Metatarsus Adductus Deformity In Childhood

The Prognosis Is Excellent With Proper Conservative Treatment

By Caroll M. Silver, MD

Metatarsus adductus is a birth deformity characterized by an incurving of the forefoot in relation to the hindfoot. Although it may be unilateral, it is usually a bilateral deformity (Fig 1). "Congenital clubfoot" typically is a triad consisting of equinus, varus of the hindfoot, and metatarsus adductus. Although metatarsus adductus has often been classified as a "mild " clubfoot, it is a separate entity which does not display the abnormal fibrous contractures and tendon abnormalities seen in clubfoot.

During the past thirty years the author has treated an average of twenty-five metatarsus adductus feet each year. Mechanical pressure of the embryo's feet against the curved uterine wall undoubtably is one factor that can produce this deformity. A hereditary tendency also exists in some cases, since several children in some families have exhibited the deformity, while other siblings in the same family have had normal feet.

CAROLL M. SILVER, MD, *Clinical Professor Orthopedic Surgery, Brown University, Providence, Rhode Island; Consultant in Orthopedic Surgery, The Miriam Hospital and Rhode Island Hospital, Providence, Rhode Island*

In most cases the forefoot deformity can be corrected passively with relative ease. Occasionally the forefoot adduction is more resistant. It is essential to institute appropriate treatment as early as possible. Years ago the author had the privilege of spending several days in Atlanta, Georgia with Doctor J. H. Kite, an internationally known authority on the treatment of clubfoot. When asked how early treatment should begin for clubfoot or metatarsus adductus, Doctor Kite replied, "As soon as the foot is delivered from the birth canal!"

X-ray films of the feet should be made routinely to rule out any rare bony abnormality. Ordinarily the bone structures are within normal limits, since the deformity is essentially a soft tissue contracture of the medial structures of the foot.

The condition should not be confused with the so-called "pigeon-toe" or "ding-foot" attitude, which is due to an internal rotation deviation of the hip muscles or to torsion of the tibia. The differential diagnosis is simple: repeated stroking of the child's foot will cause the child to dorsiflex the foot with the forefoot and the hindfoot in a straight line, whereas in metatarsus adductus the medial deviation of the forefoot persists.

If the metatarsus adductus is relatively

Fig. 1A, 1B: Fairly marked bilateral metatarsus deformities in a 2-month old child.

resistant, a light padded plaster of Paris cast holding the forefoot in abduction can be applied for a period of four weeks. No anesthesia is required. A dramatic improvement is noted after this short period. This is followed by the wearing of a Denis-Brown splint with tarso-pronator (outflare) shoes (Fig 2). The parents are instructed to have the child wear the splint 23 hours daily, removing the splint for a half-hour each morning and night for bathing purposes. The child kicks and crawls actively with the splint, and the calf and thigh muscles develop normally.

Usually after several months of Denis-Brown splinting the foot deformity has been corrected. To prevent recurrence of the soft-tissue contracture, straight-last shoes are worn daily after the Denis-Brown splint has been discontinued. The straight-last shoes are worn from six months to one year, depending on the severity of the initial deformity, and then regular shoes are used (Fig 3).

Several points should be emphasized. The tendency to tell parents not to worry and that "nature will take care of it" should be avoided; the soft-tissue contracture will become more resistant and less flexible as time passes. In children seen with this condition after the age of five years, it is sometimes necessary to do capsulotomies of the midtarsal and cuneiform joints and fasciotomies to correct the fixed deformities. Also, unless the deformity is extremely mild, advising the parent to "stretch" the foot 3 or 4 times daily is ineffectual, since the deforming tendency of the soft-tissue contractures continues day and night.

Summary

Metatarsus adductus is a soft-tissue contracture of the medial structures of the foot causing an incurving of the forefoot. It is essential that mechanical treatment be instituted as early as possible in infancy.

Fig. 2: The child wore corrective plaster-of-Paris casts for 4 weeks, followed by Denis-Brown splints with tarso-pronator (outflare) shoes, illustrated here.

Fig. 3: Five years later, the feet have normal appearance and flexibility.

The prognosis is excellent in almost all cases, and with appropriate conservative treatment one can anticipate a flexible well-aligned foot.

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* * *

Past President of the Rhode Island Medical Society, STEPHEN J. HOYE, MD, has been elected to the Board of Directors of the American Board of Surgery.

* * *

A. A. SAVASTANO, MD, has been appointed visiting Professor of Orthopedic Surgery at the University of Tokyo Medical School, October 10, 1978 through October 15, 1978.

* * *

The Miriam Hospital Staff Association has elected new officers: HENRY F. IZEMAN, MD, President; PHILIP A. TORGAN, MD, Vice President; MEHRDAD MOTAMED, MD, Secretary; M. HOWARD TRIEDMAN, MD, Treasurer; BARRY B. SCHWARTZ, Member at Large (2 year term); and MARTIN E. FELDER, MD, Emeritus Appointment.

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Editorials

Glychohemoglobin Levels

Recent conventional wisdom had it that adequate control of blood glucose in diabetes mellitus did not necessarily prevent the development of diabetic complications. This ran counter to the classical views of Eliott P. Joslin, who long maintained that meticulous control of blood glucose levels would prevent the development of complications.

The pendulum has now begun to swing back to the classical view. The American Diabetes Association has issued a policy statement strongly recommending around the clock maintenance of blood glucose to levels as close as possible, without producing insulin reactions, to those of non-diabetics. This recommendation is based on the principle that the long-term complications of diabetes (neuropathy, retinopathy, nephropathy, and arteriosclerosis) may be decreased or delayed by a persistent and prolonged reduction of blood glucose levels — ie, normalization of blood glucose levels may prevent or postpone such complications.[1] Galletti, who recently described in this *Journal*[2] experiences in the development of an artificial pancreas, has reported, in a personal communication, European studies that appear to support this view.

If this be true, it would appear that currently used methods to monitor long-term diabetic glucose control are probably inadequate. Determinations of fasting or post-prandial blood glucose give a stroboscopic picture, reflecting only an instant in the course of the diabetic, while a 24-hour urine glucose gives an integrated approximation of control for that specific period.

Several studies have demonstrated the potential usefulness of glycohemoglobin levels recently introduced for the objective evaluation of long-term glucose control. These studies indicate that glycohemoglobin levels reflect the patient's mean blood glucose concentration for the preceding weeks to months. Short-term fluctuations in blood glucose concentrations do not influence glycohemoglobin levels, whereas blood level changes lasting more than a week are reflected in the levels of glycohemoglobin. Pioneering studies at Rockefeller University on five poorly controlled diabetic patients demonstrated that glycohemoglobin levels decreased three to four weeks after achievement of optimal blood glucose control. These results have been confirmed by studies at Harvard and the University of Chicago. The Harvard group have concluded that glycosylated hemoglobin levels "represent a potentially valuable index of long-term glucose control." They further suggest that glycohemoglobin levels every two months "may allow an accurate estimate of the degree of hyperglycemia in diabetic patients over a long time period, and therefore allow long-term studies on the effects of the adequacy of control of hyperglycemia in the prevention of the various diabetic complications."

Third party reimbursing agencies now generally approve payment for this test. The opportunity is provided, therefore, to study its potentialities. It is as yet too early to draw firm conclusions as to its ultimate value in the better control of diabetics and the prevention of complications, but at this time its future looks promising.

References

[1]Glycohemoglobin levels now used to monitor long-term blood glucose control in diabeter mellitus. *Metpath Laboratory Newsletter* 3(3), Nov/Dec 77.

[2]Galletti PM: The hybrid artificial pancreas. *RI Med J* 61:243, Jun 78.

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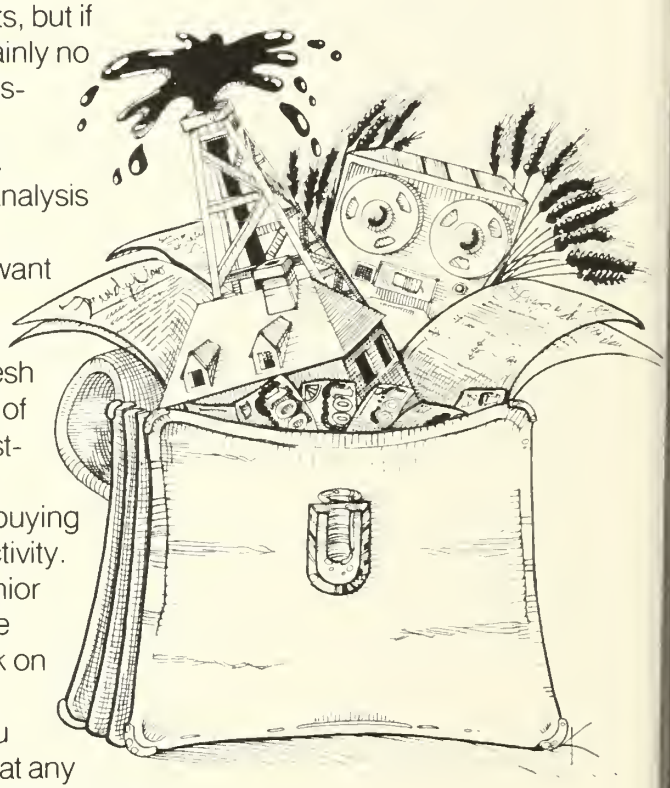

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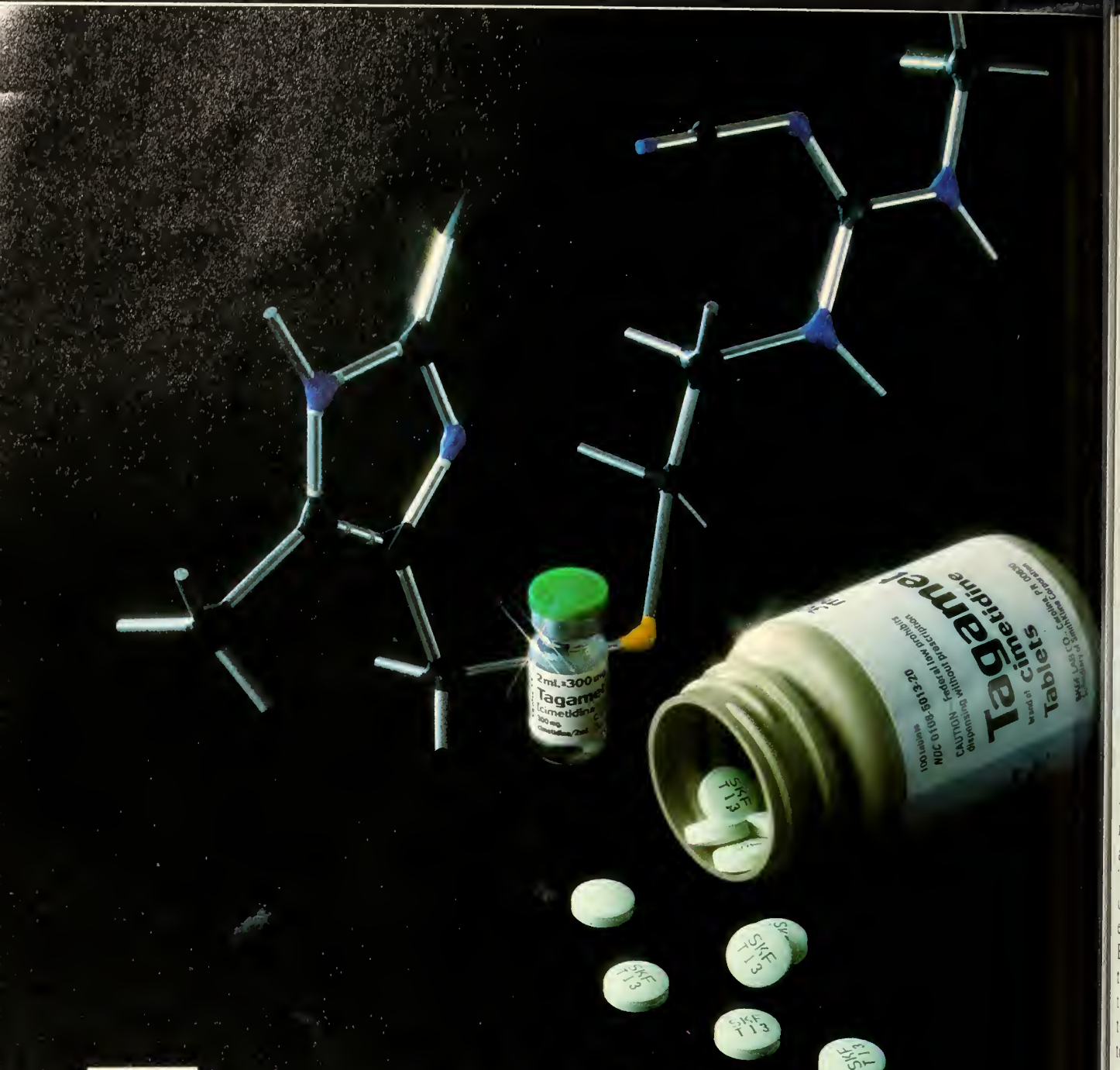

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Guest Editorial

Ethnicity, Class, and Alcohol Use

A Workshop on Ethnicity, Class, and Alcohol Use was held at Brown University on March 20, 1978. The goal of the workshop was to open new channels of communication among a small group of investigators who have recently been studying the relationships of ethnicity and class with alcohol use among various populations in the United States.

In order to discuss findings which had not previously been reported and to facilitate interchange among social scientists of diverse backgrounds (some of whom have not been actively engaged in studying alcohol), the workshop was deliberately small (30 participants) and multidisciplinary (with psychology, psychiatry, sociology, and other fields represented, as well as anthropology).

The papers were presented in brief oral summaries and reflected both a variety of methodological approaches and a variety of analytic and conceptual concerns. Anthony Thomas (Brown University) reported on his observational studies of all public drinking establishments in a small city in New England and outlined a detailed typology of them. Beyond that he offered an interpretation (in terms of functional "sociability") of the different kinds of behavior that characterize one type of establishment, which is generally frequented by men of a narrow range of socioeconomic classes. Andrew Greeley and William McCready (National Opinion Research Center, University of Chicago) reported on a mail survey of socialization, assimilation, drinking patterns, and drinking problems, among more than 1000 families in five "ethnic groups" (Irish, Italians, Jews, Swedish Protestants, and English Protestants) in four major American cities. Invited to discuss both papers, Richard Fox (Duke University) underscored the observation that differences in the preconceptions of those researchers are at least as important as their differences in methodology and warned against the simplistic dialectic of "social drinking" as contrastive with "problem drinking." He also expressed concern about the tendency of some social scientists to focus on ethnic populations almost as if they were isolated entities, with little regard for links to political, economic, and other more encompassing institutions that significantly affect what those people can do.

Andrew Gordon (Brown University) outlined ways in which beliefs and behaviors about drinking and about men's roles have changed among a Spanish-speaking group who recently migrated to a New England city from a Caribbean nation. In contrast to many other groups of rural-to-urban migrants, they appear to be drinking less and having fewer drinking problems than before. Joy Leland (University of Nevada — Reno) described the ethnoscientific approach she is using among native Americans in Nevada to discern the ways in which women cope with male heavy drinkers and alcoholics. Richard Stivers (Illinois State University) combined historical and ethnographic approaches in an imaginative way to interpret recent changes in Irish-American drinking. Selden Bacon (Rutgers Center of Alcohol Studies) provided an enthusiastic summary when he characterized anthropological studies as holding exceptional promise because they focus on drinking in natural settings and attempt to understand its meanings in terms of the participants themselves rather than on supposed "problems" or on academic questions and categories that may not be relevant to the specific situation.

Major outcomes of the workshop were dissemination among participants of preliminary findings concerning research that is still in progress, the opening of channels of communication among colleagues who share some topical and theoretic concerns, and reaffirmation of the potential contribution that ethnographic approaches can make with respect to both ethnicity and alcohol studies

in the United States. Substantially revised versions of the papers will be published as a special issue of "Medical Anthropology" (Volume 2, Number 4, Fall 1978), under the editorship of Andrew Gordon.

The workshop was organized by Andrew Gordon and Anthony Thomas, postdoctoral fellows in a NIAAA-sponsored research-training program* at Brown University. It was jointly sponsored by the Department of Anthropology and the Program in Medicine, Division of Biology and Medicine of Brown University; the Division of Substance Abuse Department of Mental Health, Retardation, and Hospitals of the State of Rhode Island; and the United States Brewers Association.

Dwight B. Heath, PhD**

---

*National Institute on Alcohol Abuse and Alcoholism, National Research Service Award (Institutional), 5 t32 AA07131-02

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(Answers on Page 390)

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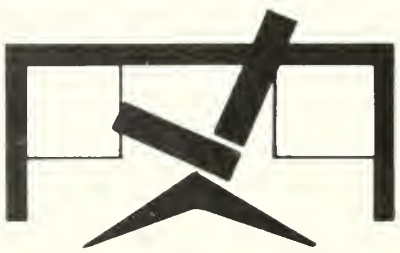

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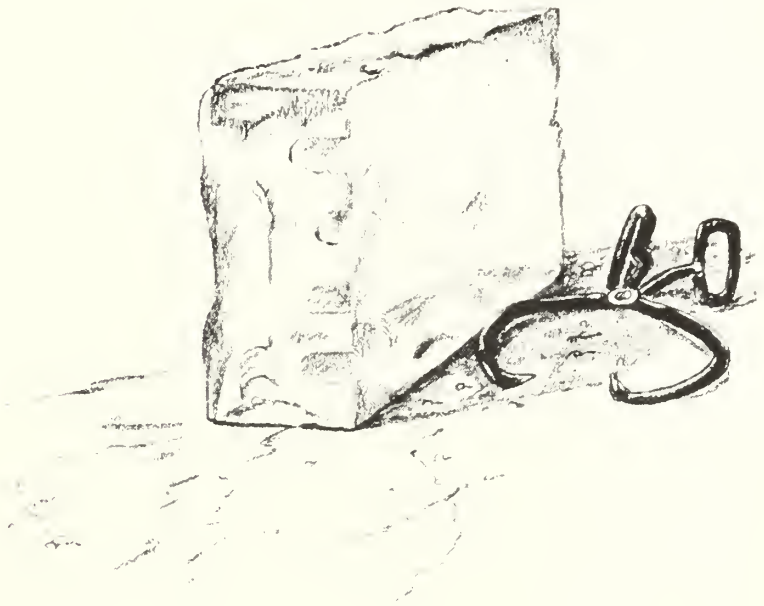

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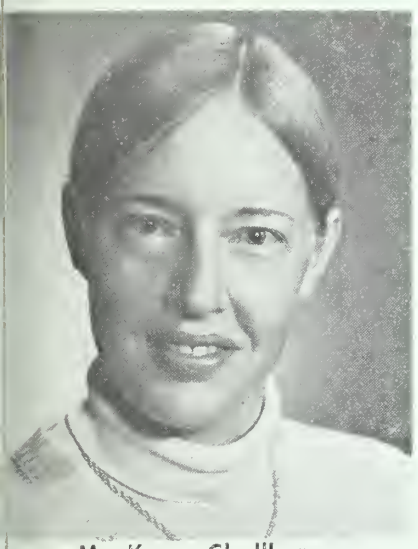

Ms. Karen Challberg

At its last meeting the House of Delates approved the Council's recommndation to increase the responsibilts of a present Society employee, Ms. ren Challberg, to include various liain activities with district societies, the dia, and other health care related ganizations and institutions. Ms. allberg is presently Assistant Manng Editor of the *Rhode Island Medl Journal.*

Ms. Challberg graduated from Cran-n High School East in 1962. She has A.B. degree from Tufts University d an M.A. degree in English from University of Rhode Island. Before ming to work for the Society in Noember, 1976, Ms. Challberg was emyed by Duffy & Shanley, Inc., public ations/advertising firm, as an assistt in their Media and Production Dertment. She has also taught English the high school and introductory llege levels.

In her present position as Assistant anaging Editor of the *Rhode Island edical Journal*, Ms. Challberg's responsibilities have included assisting in the editing of manuscripts, preparing manuscripts for printing, and acting as principal liaison with the printer during all phases of production of the publication. She has also been assisting the executive staff in certain public relations activities. As Assistant Managing Editor and Director of External Affairs her duties will be expanded to include the establishment of as many mechanisms as possible to disseminate Society views to the public and to other institutions and organizations in the health care community.

In the history of the Rhode Island Medical Society, Ms. Challberg is the first woman to be appointed to an executive staff position.

AMA Delegates

John Cunningham, MD, of Pawtucket Memorial Hospital and Herbert Hager, MD, of Providence, have been re-elected delegate and alternate delegate, respectively, to the AMA House of Delegates. Contact these members with your views. You can held them. They can help you.

MEETINGS

The schedule of RIMS Council and House of Delegates meetings for the winter and spring, 1979, is as follows:

Monday, January 15th — Council
Wednesday, Feb. 7th* — House
Monday, March 5th — Council
Wednesday, March 21st — House
Wednesday, May 16th — Annual Meeting

*Corrected from *Newsletter,* June 1978.

All Society members are invited to attend any meeting of the House of Delegates as spectators.

Medical Review Board Surplus Funds

Dr. Stephen Hoye, Chairman of the State Board of Medical Review and Miss Margaret Joyce-Diamond, Executive Director of the Board, spoke to members of the Providence Medical Association at a "wine and cheese" meeting in the Rhode Island Medical Society Auditorium on October 25, 1978.

Dr. Hoye explained the history of the board as set up by the Medical Malpractice Act, formulated by the Malpractice Commission established by then Lt. Gov. Garrahy. He explained the board's progress in the two years it has been in existence, which has been principally to get itself organized. The groundwork is now laid, Dr. Hoye stated, the board's activities are underway, and it is holding hearings. Dr. Hoye also explained the interchange between the Board of Medical Review and the Mediation Committee of the Rhode Island Medical Society.

The board's director, Miss Diamond, reviewed the procedures and powers of the board in the handling of complaints which include assignment of a 2-person committee to each complaint received by the board in writing, evaluation of reports from these committees, holding of an open meeting for discussion of report findings at which the board votes to accept or reject findings, holding of a closed meeting to discuss sanctions, and finally holding an open meeting to announce the disciplinary action, if any, deemed appropriate by the board. Dr. Hoye added that the Medical Malpractice Act makes no provision for mandatory reporting of abuses to the Board.

Dr. Hoye also announced that physicians will receive an abatement in the form of a refund of 1978-79 assess-

(Continued on next page)

ments, pursuant to the provisions of the Rhode Island General Law Chapter 5-37-12, which states that the Board "shall reduce assessments and/or refund surplus funds when yearly expenditures are less than revenues collected." In addition to the refund to physicians the hospital assessment of $15.00 per bed for the fiscal year October 1, 1978 through September 30, 1978 is to be abated.

Public Hearing

A public hearing on the proposed JUA rate increase will be held in the Hearing Room, 2nd Floor, in the Department of Business Regulation, 100 No. Main Street, Providence, on *Tuesday, December* 12, 1978 *at* 10:00 *a.m.* Malpractice rates will depend on the outcome of this hearing. Plan to attend.

Physician's Assistants Membership

Drs. Herbert Hager, Charles E. Millard, and George N. Cooper, Jr. have been appointed to a committee to review the bylaws and make recommendations on membership in the Rhode Island Medical Society for Physician's Assistants. The committee was established by the Council. Physician's Assistants in Rhode Island at present number about twelve, but are expected to become increasingly active in the delivery of medical care in the years ahead.

There is precedent for Physician's Assistants membership in state medical societies in such states as Washington, in which a Physician's Assistant may join the state society provided that the physician employing the Physician Assistant is a member of the medical society. Physician's Assistants have been granted assistant membership in the Washington State Medical Association at an annual dues fee of $5 with no voting privileges. The Bylaws Committee will research such classifications of membership, and will present their recommendations to the Council.

RIMS Library

The House of Delegates (meeting October 18, 1978) approved the recommendation of the Council (meeting September 11, 1978) to maintain the Library in its present status. This recommendation was formulated after careful review of the findings of the Ad Hoc Library Committee, chaired by Dr. Robert V. Lewis. Dr. Lewis' carefully researched report on the Library described the collection, and presented various viable options for its future.

Through the years the Library has come to acquire a large volume of books and journals, which now includes two significant valuable collections of special material — the Rare Books Collection of medical books dating back to the 1700's, and the James Henry Davenport Collection of books by and about doctors in medicine, non-technical in nature. These collections are unique treasures of the Society.

The Council considered the alternatives to the present maintenance of the Library by the Society, As presented by the Ad Hoc Library Committee, these alternatives included placement of the Rare Books Collection in the John Hay Special Collections at Brown University, and the placement of the Davenport Collection either at the Providence Athenaeum, or the Providence Public Library, or in the John Hay Special Collections.

After discussion of the value of these collections, as well as the working library and its services, the House of Delegates vote was unanimous to continue to protect these resources, maintaining their full availability to members. The estimated cost of the Library to the Society on a yearly basis is $27,000 or $25 per member.

— Dues —

Membership dues for 1979 will remain the same as for last year ($175) payable to May 1st. *Support your Society and its activities.*

Notice

Because of the diligence of Melvy Gelch, MD, Treasurer of the Society our investment funds are now bein managed by the Providence Grou and there has been evidence in ju a short period that through the mar agement of this organization the S ciety will enjoy a greater yield on i investments. The Council and th House have also approved a manag ment of other Society funds by th Providence Group which should r sult in a greater interest return o the monies handled by the Society.

Legislative Counsel Reappointed

Attorney Charles Butterfield has b reappointed as legislative counsel the Rhode Island Medical Society the upcoming 1979 session of the Rh Island General Assembly. Atty. Butt field has served the Society in this pacity well and ably for several ye and with the help of as many memb as are willing to offer their assistan the Society will be working hard ward good and workable health c legislation.

We urge all physicians to cont their local legislators prior to the op ing of the legislative session and requ discussion of any proposed bill relati to health care.

SHCC Meetings

SHCC meetings will be held i the Cafeteria of the Cannon Buil ing, 75 Davis St. on the followin dates:

Thursday, December 14, 1978
Thursday, December 28, 1978
Thursday, January 11, 1979
Thursday, January 25, 1979

All meetings are scheduled for 5: p.m.

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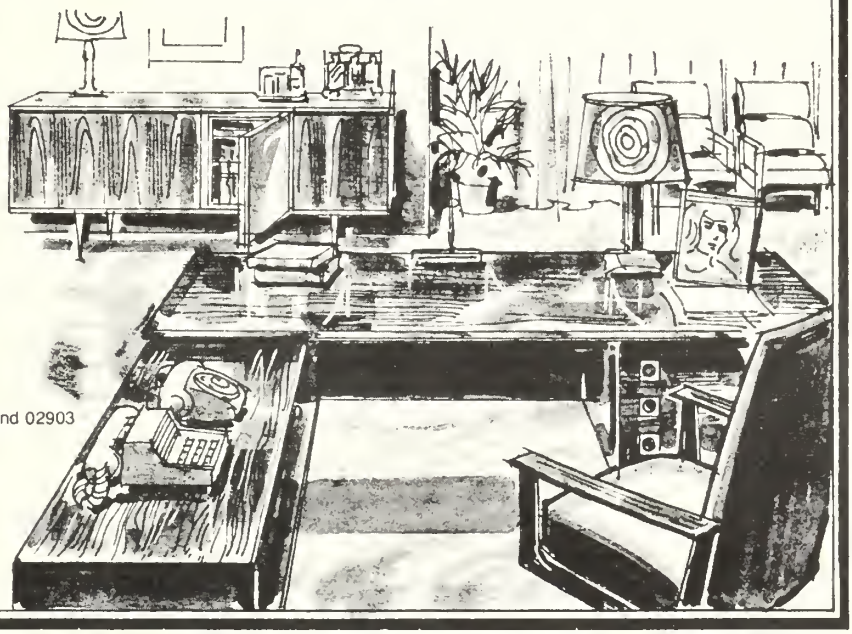

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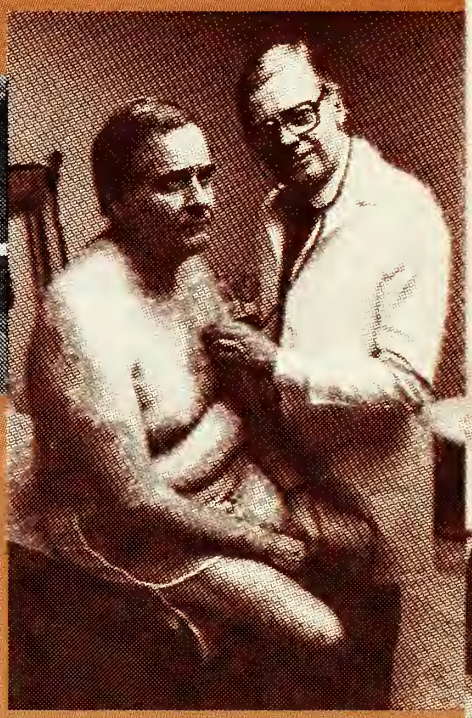

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Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Warn patients that mental and/or physical abilities required for tasks such as driving or operating machinery may be impaired, as may be mental alertness in children, and that concomitant use with alcohol or CNS depressants may have an additive effect. Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage. Withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral—Adults.* Mild and moderate anxiety and tension, 5 or 10 mg *t.i.d.* or *q.i.d.*, severe states, 20 or 25 mg *t.i.d.* or *q.i.d. Geriatric patients.* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)

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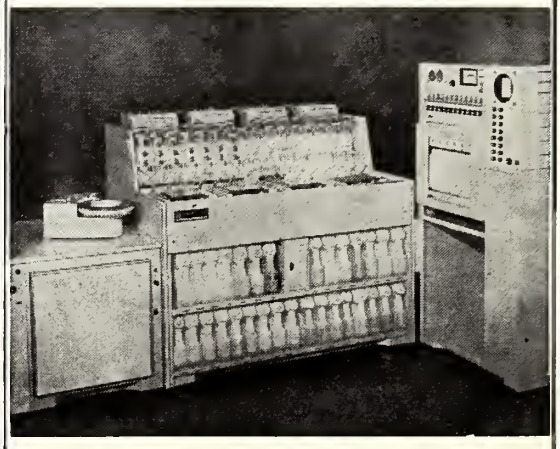

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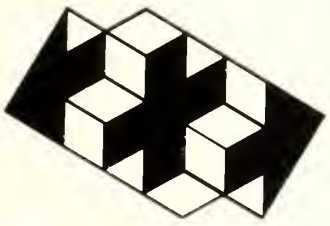

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Address Of The Chairman Of The Board At The 29th Annual Meeting Of The Corporation Of Blue Shield Of Rhode Island

By William MacDonald, MD

Serving as Chairman at this period in the history of our corporation, and particularly for the past year is a very singular honor indeed.

At the outset in my remarks I'm compelled, because of the deep sense of pride that has built within me following a review of the past year and a look at the future, to report to you that your corporation is in excellent condition by every measurement, and the future looks even brighter.

Health of the Plan

I recall just a year ago, standing in this same spot, reporting to you on matters of significant concern to Blue Shield of Rhode Island, concerns relative to our financial position, concerns because the State Director of Business Regulation disallowed completely in our rate change request that portion of the request that provided for physician fee changes that were an important and an integral part of our total program. I recall reporting to you that your Board of Directors was charged by the State with exploring alternate methods of reimbursing physicians for services provided to our subscribers, and also reporting to you that steps were being taken to stabilize our financial position, to address the concerns of the Director of Business Regulation, and to address all of the other problems faced by every prepaid medical service plan in the nation.

Address delivered March 15, 1978

Last year I also called for a re-dedication of our corporation under the new management leadership of Douglas J. McIntosh to continue to insure the cooperation and confidence of our physician providers, to continue to provide new and broader benefits for our subscribers, to continue our outstanding record of efficiency through good management practices, and to control costs through judicious utilization and claims review procedures.

Nineteen seventy-seven was not only a year of re-dedication but a year when we made stronger the very foundation of this corporation on many fronts. Blue Shield's financial position improved dramatically in all respects. The Boards of Directors of Blue Cross and Blue Shield, by way of special study and a special committee, substantially resolved the physician fee increase problem in a way that permitted equitable adjustments to individual physician profiles — without precipitating a general rate increase burden on subscribers. This was a remarkable achievement. Furthermore, physician participation in Blue Shield programs continued to underpin our Plan's record of achievement. At present, more than nine out of ten practicing physicians in Rhode Island are "participating physicians", willing to work within an established and successful prepayment system that benefits both providers and subscribers. The Board also responded in a timely and prudent way to public demands for specific benefit development. Decisions were made to offer

voluntary option coverage for extended mental health services, alcoholism care beyond detoxification, and, more recently, home care benefits.

Achievements

The intent, by offering optional programs, remains to discourage across-the-board, mandated coverage by action of the State General Assembly. So far, our approach seems vindicated, and meets public approval. Over 86 per cent of all Blue Shield subscribers now enjoy membership in the Plan "100" program, which assures them increased protection when they receive covered services from participating physicians. Also, more than three out of four Blue Shield subscribers now have Major Medical coverage to supplement their broad basic benefits.

In a federal government analysis of administrative performance by the nation's Medicare carriers, through June of 1977, the Blue Shield Plan in Rhode Island ranked first in the United States in terms of the cost of processing each Medicare Part B claim. This is a magnificent and enviable achievement, one that implies in a dramatic way that our Blue Shield Plan has earned its place in the future of the financing of medical services in this state and nation. This same ranking service, provided by the Social Security Administration, placed the Rhode Island Blue Shield Plan in second place nationally, in terms of claims processing productivity.

Controls on Costs

In concert with the Blue Cross Board, our directors shared directly in cost containment benefit and program application that generated more than $21 million in savings last year alone. However, your Board is acutely aware of the danger of cost containment impinging on the quality and availability of medical care. With this in mind, we shall continue to monitor each cost containment program carefully. We can take pride, great pride, too, in the findings of an internal productivity study that disclosed a 400 per cent increase in claims volume over the past nine years with only a 94 per cent increase in the size of our staff during the same period.

Physicians continued to show their understanding and support for the concurrent review program, which limits admissions and hospitalization to what is clearly medically neccessary. As a direct result of this effort by physicians and hospitals, the average length of stay for Blue Cross subscribers dropped below 7 days for the first time ever. The virtually universal support for the "participating program" agreement, the Blue Shield Plan "100" program, stands as a tribute to the reimbursement system and to the integrity and public service dedication of the physician community. During 1977, the preliminary groundwork was completed for the development of an extension of our Medigroup program from Bristol to Newport and into the Blackstone Valley. With approval of this program earlier this month, we now expect to enroll a number of Pawtucket-area residents in the independent practitioner association model. The arrangement permits Blackstone Valley doctors taking part in the program — as well as their patients — to continue established patterns of providing care, yet to experiment with a capitation pre-payment system. I am proud of the Blue Shield Plan's involvement with the HMO concept based on existing community doctors and facilities and with the modest, but measureable successes we have achieved. It is a difficult challenge to offer something promising to a population that has shown itself generally pleased with the traditional delivery and financing system, and to do this while preserving the crucial free choice option of both doctors and patients.

Certificate of Need and the Private Practitioner

Some of you are aware of the movement to legislate "Certificate of Need" limits on capital spending by physicians and other providers of health services. As the draft proposals continue to be considered, I am pleased to report that our Blue Shield Plan and the Rhode Island Medical Society share a common concern about the exact outcome of any such legislation. Our cooperative approach cannot but enhance passage of a law that makes sense from all relevant perspectives and does not work an injustice on anyone.

New Programs

The "same day surgery" program, another cost-quality option for both doctor and patient, showed a cost savings of $136,000

last year alone, representing services provided in units outside the conventional inpatient operating rooms. Currently, model programs are being conducted and evaluated at the Ambulatory Patient Center at Rhode Island Hospital and at the Blackstone Valley Surgicenter.

The joint Blue Cross-Blue Shield effort at broad-based cost containment, which I mentioned earlier, is vested in a special joint committee of both the organizations' boards of directors. A recent analysis of this effort afforded a dramatic insight into what has been and continues to be done with prudent "investment" in cost saving programs and benefit development activity. For example, for each administrative dollar spent on cost containment for Blue Cross and Blue Shield, a "return" of $56 in measureable savings was realized during 1977. This is another tribute in great part to the dedication of physicians.

CHAMPUS

Because of our Plan's outstanding track record in claims and cost control performance with federal programs, national accounts, and basic benefit programs, we have been selected, after competitive bidding, to administer the Civilian Health and Medical Plan for the Uniformed Services for more than 102,000 military dependents and retirees in the states of Rhode Island, New York, and New Jersey. The staff, corporation, and the Board have a right to be very proud of this prestigous contract.

The "Government in the Sunshine" law, adopted by Congress last year, now requires the Blue Shield Plan, as a Medicare carrier, to disclose—upon request only—the amounts paid to physicians under this program during the 1977 calendar year. Our President's formal, written objection to this sort of disclosure and the inevitable misimpressions it is likely to create—in some quarters, at least — have fallen on deaf ears. The media may very soon be publishing long lists of names and numbers that may cause all parties some temporary discomfort. The gross inaccuracies of the last published list of payments to physicians should diminish the credibility and interest in this year's disclosures.

Success of the Plan

I could continue extolling the virtues of our Blue Shield Plan. I could do it without exaggerating, without distorting, and without compromising my own healthy skepticism. Fortunately for you, however, the whole story—as much of it as we could compress into 24 pages, at least— is contained in the Blue Cross and Blue Shield Annual Report for 1977. I am sure you will find in it reassuring evidence of our Blue Shield Plan's considerable success in meeting the best expectations of a discerning and deserving public.

My report to you is, of course, merely a panoramic look at the hard work, enthusiasm, and effectiveness of your Board of Directors, its many hardworking committees, and the excellent professional support of our management staff. Your Board members are faithful in attending meetings. They accept with relish the sometimes seemingly insolvable problems that face this corporation. And, equally important, Board members truly respect and like each other. They enjoy being together for a common pupose. They work hard, and they enjoy it. On behalf of our corporation, I would like to express our appreciation to these public-spirited men and women. Our management staff, under new, but continued bold leadership, seems to know no limit to what it can achieve under the policy direction of your Board. The staff displays both the skill and the courage to do what must be done in the service of both providers and subscribers to fufill its mission.

The Board and staff have a common goal, a common dedication, a common desire for performance and efficiency, and a common sense of fairness and equity toward all parties of this corporation which constitutes the heart and soul of Blue Shield of Rhode Island. I ask you, the members of the corporation, to continue to support your Board and staff in their efforts to prove by performance the advantages of the private control and management of medical care delivery. In return I pledge to you a continued sensitivity for the concerns of our physician providers and a resolve to provide to the people of Rhode Island the best health insurance program in this country.

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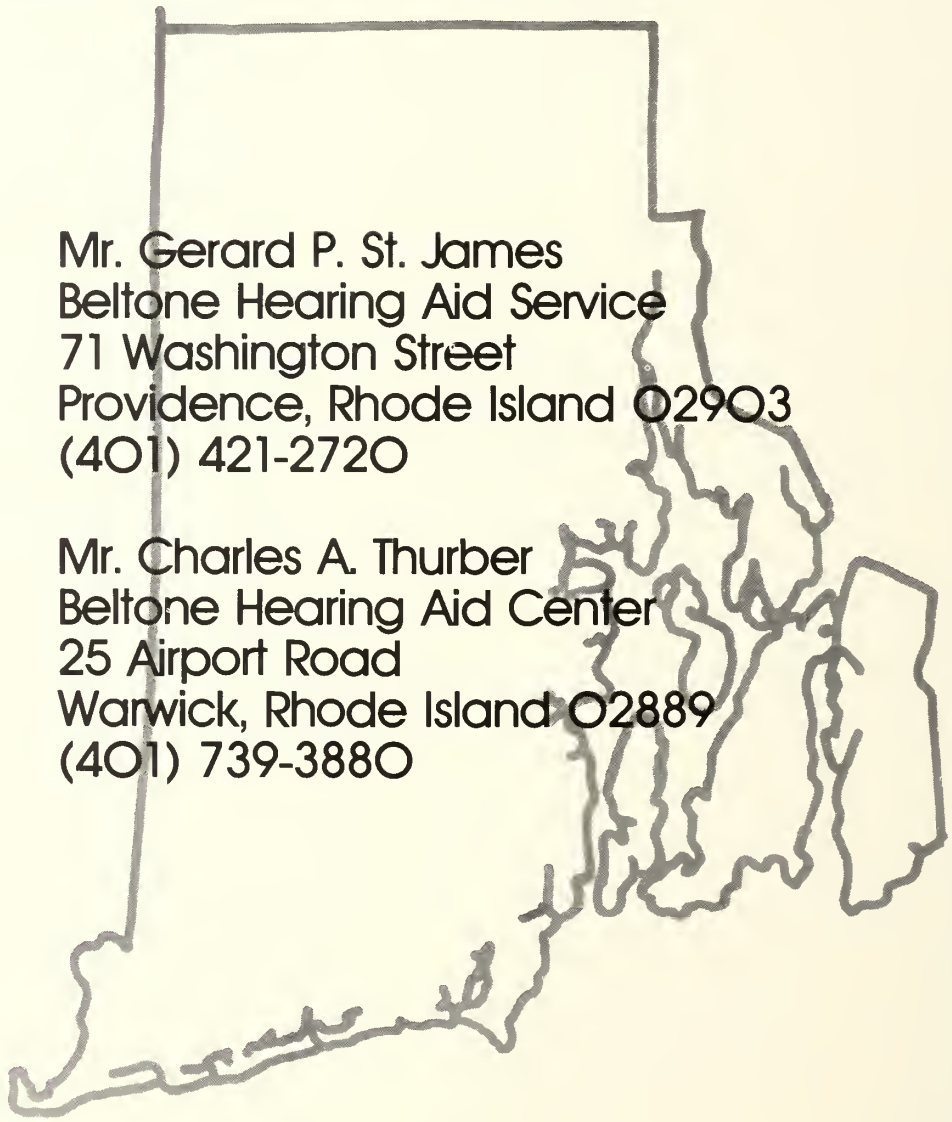

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Address Of The President At The 29th Annual Meeting Of The Corporation Of Blue Shield Of Rhode Island

By Douglas J. McIntosh

The best unofficial measure of performance is acceptance—public acceptance. Today, more Rhode Islanders have Blue Shield coverage than ever before. At the end of 1977 membership stood at over 778,000 subscribers—up 9,000 over last year's record high figure. Enrollment gains are consistently demonstrated in all lines of business that are actively marketed—Blue Shield Plan 100, Plan 65, Major Medical, and the programs companion to Blue Shield which are offered by Blue Cross and Delta Dental. The record high number of enrollees, however, only tells the quantitative story.

Subscriber Population

The qualitative analysis of our subscriber population is even more impressive. Just about five years ago, only 35 percent of our enrolled population had the best combination of benefits—Semi-Private Blue Cross, Blue Shield Plan 100, and comprehensive Major Medical. Today, over 70 percent of our enrollees have upgraded the components of their coverage so that they now have the comprehensive package. This public recognition of the need for quality coverage occurs not only in our group business but is equally true for the Direct Payment plan where people must dig into their pockets and pay the premiums themselves.

One of the major marketing projects of 1977 was the acquisition of a new government program. The program was CHAMPUS. CHAMPUS is an acronym for the Civilian Health And Medical Program of the Uniformed Services, which is the government insurance covering servicemen's dependents. The government, in its wisdom, decided to regionalize this program for administration; and defined Massachusetts and Connecticut as a region and Rhode Island, New York and New Jersey as a separate region. In consultation with the other Blue Cross and Blue Shield Plans throughout New York and New Jersey, it was concluded that the only Plan in this three-state area that had the cost and performance track record to win the competitive bid and the administrative efficiency to deliver the benefits was little Rhode Island. So with the support of the Boards, we proceeded and won the bid. Well over a 100,000 people are covered by this program; and to date, over 100,000 claims have been paid to hospitals, doctors, and subscribers in the three-state area. Although program administration is replete with problems, as will happen in the first year of any new government program, the performance reviews held to date by government officials show that the program will clearly compliment our well-established track record of being an efficient and effective administrator of government programs; and, for the first time, that expertise and reputation have been demonstrated in a multistate capacity.

Address delivered March 15, 1978

Cost Containment

The complexity of Blue Shield is much more than higher numbers and new programs. With the growth that we have continuously experienced comes an increasing responsibility thrust upon us as the trustee of the public's health expenditures. In these times of skyrocketing health care costs, one corporate imperative that must be addressed is the responsibility of Blue Shield in responsible *cost containment*. Cost containment is the name of the game.

Doctor William J MacDonald, Chairman of the Board, has already referred to the Annual Report. I, too, would urge you to read it.

Last year, the Blue Shield Association, which is the national association, adopted a definition and membership standard dealing with cost containment. This standard not only obligates each Plan to conduct a review of activities and programs germane to cost efficiency, but also establishes documentation procedures for the monitoring and measurement of cost containment results.

The Rhode Island Plan, with the help of the medical community, continues to be a pacesetter in this context. The Board of Directors, recognizing the need for concerted action, has formed a Joint Blue Cross and Blue Shield Cost Containment Committee which centralizes the monitoring of the effectiveness of cost containment activities directly at the Board level. The Annual Report summarizes the dramatic results achieved in this regard. For every administrative dollar spent last year on cost containment activities, the Plans have saved or avoided the need for $56 of premium income. Over $21 million has been saved for Blue Cross and Blue Shield subscribers by programs such as reimbursement contracts with providers, subrogation activities, coordination of benefits, same-day surgery, skilled nursing facility benefits, and others. It is hoped that more dollars will be saved in the long range by the effects of the public educational programs such as the "Change Your Mind About Your Body" program.

But $21 million is not the end of the story. Continued vigilance and progressive attention to the goal of responsible cost containment must continue. There are traps into which one can easily fall in this endeavor. One is to mimic the route taken by government in federal Medicare with continuing increases in the program deductibles and co-payments. This is not cost containment but cost transfer, cost avoidance, and results in program savings by shifting the financial burden to the public. The test of that approach is to evaluate the effects of ever-increasing deductibles and co-payments on our elderly population. The other trap is to be concerned with "*cost only*" without a constant awareness of our responsibilities to protect the public's right to access to the highest quality health care. I truly believe that the $21 million outlined in the Annual Report avoids those traps, and I assure you that both the staff and the Board of Directors will be diligently aware of those "easy outs" as we continue to play a direct or catalytic role in promoting financial efficiency and effectiveness in cost containment activities.

Cost containment is a continuing process. Two recent developments have considerable potential in this regard. One is a series of meetings that have been held between our staff and the Rhode Island Professional Standards Review Organization. The PSRO is a physician-oriented organization formed in response to federal legislation which bears direct monitoring responsibilities assuring that proper utilization review is performed on all hospital inpatients covered by Medicare and Medicaid.

New Approaches

Negotiations will shortly be initiated with the PSRO to see if a pilot program can be implemented to test the cost and efficiency with which the PSRO could extend its review procedures to Blue Cross patients as well, resulting, hopefully, in more intensive review of appropriateness of admission, proper length of stay, and, perhaps most importantly, the appropriate use of ancillary services. We believe the physician community is the proper vehicle and can respond to increasing demands for proper utilization review. If such an experiment can be properly structured and priced, it may lead to even greater assurance of the integrity of services for which Blue Shield dollars are being expended.

Another promising and potential avenue

for cost containment is revealed in the joint letter issued by the American Medical Association and the American Hospital Association to constituent state agencies challenging the providers to establish state committees to demonstrate that the voluntary sector can effectively produce cost containment results. This activity presents a valuable opportunity for voluntary organizations to offer a practical alternative to government control. We believe that this is feasible. Accordingly, a letter was sent this week to both the Rhode Island Medical Society and the Hospital Association of Rhode Island indicating the willingness of Blue Cross and Blue Shield of Rhode Island to serve on that committee, to support responsible activities relative to the national goals, and to invite those organizations to meet with the Boards' Joint Committee on Cost Containment to assure coordinated efforts.

Special Interests

Not all community activities, however, are consistent with cost containment objectives. As the crunch increases demanding that health dollars be spent where they can do the most good for the most people, we see more and more special groups, which cannot prevail in the marketplace by convincing people voluntarily to purchase certain benefits, turn to the Rhode Island General Assembly to have those benefits forced onto the market. There is a variety of reasons for this ranging from the altruistic to the purely self-serving. More and more, we see legislation being introduced to force third party insurers to include certain benefits and to pass on the cost to our citizens more in the style of a taxation vehicle than as a mechanism of market free choice. It may be unusual for anyone to compliment legislators — people seem to prefer to dwell on the negative rather than the positive — but I think the Rhode Island General Assembly has been diligent in its review of such proposals and has recognized that mandated benefits without proper controls, testing limitations, and public demand are irresponsible and clearly not in the public interest. Its support of the typical Blue Cross and Blue Shield approach of offering benefits on a voluntary or rider basis as a test of public desirability and benefit integrity has been an essential element of protection for the citizens of our state. If I can ask one favor of the corporators, it would be to ask them to support, in any political or social circles in which they may find themselves, the concept of avoiding mandated benefits which serve a minuscule minority at the expense of the majority of subscribers, who have greater needs for their available health care dollars.

Performance

While all of this important business is going on, Blue Shield, on a day-to-day basis, is also in the production business. This year over 4,000,000 claims will be processed. The cost of these claims will be in excess of $300,000,000 with over $60,000,000 being paid to physicians alone. Doctor MacDonald noted the 400 percent increase in claims that has taken place over the past nine years with less than a 100 percent increase in staff and a 151 percent increase in production. I am extremely happy to add to those facts the result of the recent performance review of our Medicare operation by government auditors and officials who, through audit, have reported that, while our cost was the lowest in the country and our claims processing time the fastest in the country, our error rate on claims was less than 1.1 percent of all claims processed. Blue Shield measurements show similar results.

As you can imagine, it is the 1.1 percent that receives the most attention; but it is an appropriate perspective to be aware of the 98.9 percent of claims that are reviewed, adjudicated, and paid correctly.

All that has been achieved this year by Blue Shield is not solely a tribute to the Plan alone. The continued voluntary support, involvement, and participation of 94 percent of the physician community of this state is the keystone upon which all of these successful building blocks are based. Despite the continual threats of government interference, Blue Shield continues best to fill the needs of Rhode Island by serving as the vehicle of partnership that exists between the public and the physician community.

Over the past two years the picture has at times been extremely bleak with the commitment of annual review of fees and payment levels frozen by regulatory authori-

ties under the misleading guise of cost containment. At stake and being threatened was the very essence of Blue Shield in that we had to face the dilemma of being able to serve neither the subscriber nor the physician. With the help of the Corporation, and with the creative and courageous help of the Board of Directors — both public and physician members — that hurdle has been cleared. That success should not, however, promote complacency.

Pressure will always continue from physicians, from the public, and from the government upon the organization to slant its service concerns to either the provider side of the issue or the public side. Hopefully, the reasonable attitude will continue to prevail that while we retain a balance — a true sense of partnership — we serve both the providers and the public. When that balance is lost, we become unable to service either side well.

Liaison Activities

The ability of Blue Shield to retain this balance depends on a long list of factors, but one of the most important is continued liaison between Blue Shield and the medical community. We have been encouraged by the success of some of the initial steps that have been taken in this direction in the past few months, I should like to mention just a representative sample of those activities:

1) A regular and formal liaison between Blue Shield and the Medical Society Committee chaired by Doctor Peter Mathieu has certainly enhanced the ability of both organizations to function effectively in the area of legislative issues. That is not to say that that we always agree; there are, in fact, some real dog-fights; but we now understand and I hope respect the differences. The result is helpful to both.

2) Doctor MacDonald and I have met and will continue to meet with James R. Clarkin, Executive Director, and Doctor Frank Sullivan, President, of The Rhode Island Medical Society, to assure that both organizations are up-to-date on the important issues of mutual concern.

3) Liason has been established between Blue Shield and the Association of Presidents of Hospital Staffs in Rhode Island with the help and assistance of Doctor Richard Judkins, who serves as president of that organization. It is hoped that this liaison will provide a direct pipeline to Blue Shield of the problems that exist from a hospital staff perspective as well as a direct pipeline to that staff which will enhance the understanding of Blue Shield policies and procedures.

Corporate Goals

One of the major corporate goals for the upcoming year will be a total review of all present mechanisms of liaison coupled with a proposal designed to achieve greater two-way communication and an increase in forums for discussion. That professional relations plan, if I may call it that, will be sent to the Professional Advisory Committee of Blue Shield, and the Board of Directors for review, comment, and modification. Then, if we have a product that the Board of Directors considers to be worthwhile, we shall send it to the Medical Society for their review, comment, and modification.

It will be a long process, and many members of the corporation will be deeply involved in that effort. I hope that the response will be positive and helpful. The effort is too important to physicians and to the public to let it fail.

Since this is my first Annual Meeting address as the Plan's Chief Executive Officer, I should like to add a couple of personal comments.

The business of Blue Shield is exciting and invigorating, and gives one a sense of having the opportunity to make a significant contribution to the people of this state. It would be very easy to go on at length covering all of the subjects. That is not possible. But I can give assurance that those representatives — both physician and public — who have been chosen so wisely to serve on the Board of Directors have contributed many hours in giving their advice,their expertise, and their support, and engaging in discussions. Theirs is both an unpaid and sometimes thankless task. In this year of transition of staff leadership, the Board has been the stalwart of continual dedication to public service, credibility, and excellence. I personally owe them a great deal, and I thank them and so do all of the subscribers to the Plan who are the real recipients of their tremendous dedication to a public trust.

I would also be remiss to express my deep gratitude to the tremendous executive team that I had the privilege of inheriting. Their team spirit and dedication to corporate objectives have added the element of consistency to Plan progress. They are, without a doubt, the finest management team in the Blue Cross and Blue Shield system.

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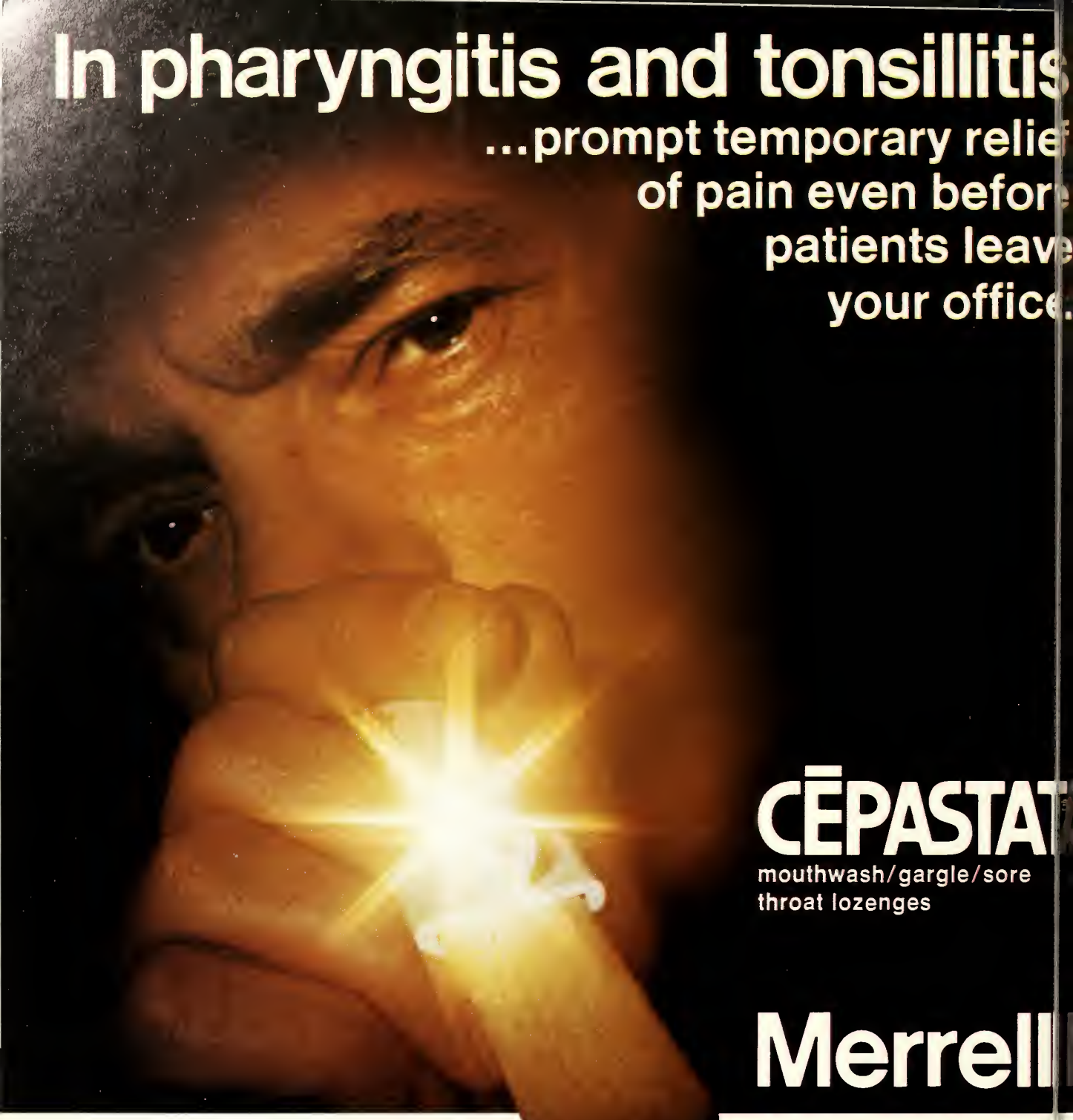

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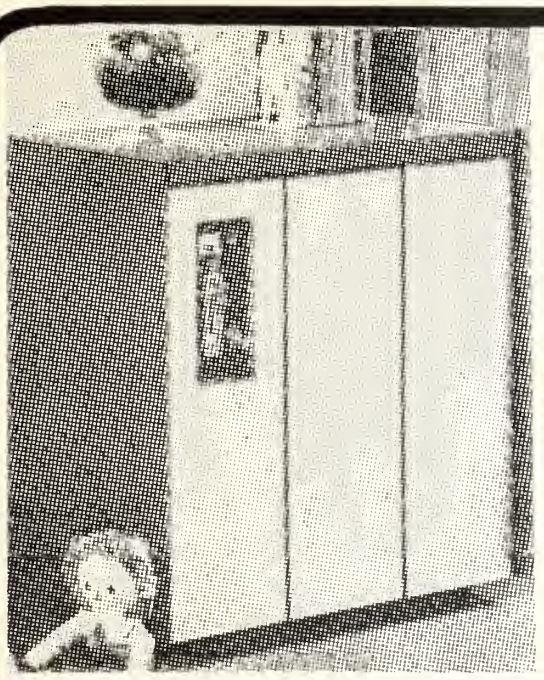

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Left Atrial Myxoma — Presenting As Bacterial Endocarditis

This Is The First Reported Case Surviving Without Sequelae

By Elizabeth Corrigan, MD
David Newhall, MD
Roger D. Raymond, MD

Left atrial myxoma presenting with signs and symptoms of bacterial endocarditis is rare. Only four cases of left atrial myxoma with bacteremia and infection of the tumor have been reported, and in only two was the diagnosis made antemortem with only one survivor.[1-4] A case of cardiac myxoma presenting with the clinical picture of bacterial endocarditis is the subject of this report.

A 29 year-old male school teacher was admitted to the hospital because of fever, chills, malaise, and increasing lethargy.

The patient had an unremarkable past history. He first became symptomatic seven months prior to admission when he developed arthralgias of the knees and ankles. Four months prior to admission he was noted to have clubbing of his fingers and toes. Bone x-ray studies revealed periosteal reaction consistent with hypertrophic osteoarthropathy. A chest x-ray film at that time was normal as were liver function tests and barium intestinal x-ray studies. Westergren sedimentation rate was 32 mm in one hour, and hemoglobin was 11.9 g per cent. The patient was believed to have idiopathic pulmonary osteoarthropathy and was treated with salicylates and subsequently with indomethacin. He was able to continue his normal activities during most of the next three months despite additional fleeting episodes of malaise, chills, and fever that would follow marked exercise. One month prior to admission he began to experience more persistant malaise as well as increasing fatigue and weight loss. Spleen tip became palpable, and laboratory tests revealed a 2.9 gm drop in hemoglobin as well as a threefold increase in Westergren sedimentation rate to 101. The patient was suspected of having bacterial endocarditis and was admitted to the hospital for further evaluation on 8/15/75.

On physical examination the patient appeared well but anxious and pale. The temperature was 100.9 F(38.5 C) orally, the pulse 88, and respirations 18. Blood pressure was 110/60. No Roth spots were noted on fundoscopic examination. There was no jugular venous distention, carotid upstroke

ELIZABETH CORRIGAN, MD, *Fellow in Cardiology, Harvard School of Public Health, Boston, Massachusetts*
DAVID NEWHALL, MD, *Staff Member at Rhode Island Hospital, Providence, Rhode Island; Instructor, Brown University Division of Biology and Medicine, Providence, Rhode Island*
ROGER D. RAYMOND, MD, *Staff Member at Rhode Island Hospital, Providence, Rhode Island*

was brisk, and there were no bruits. Small lymph nodes were felt in the anterior triangle. The lungs were clear. The heart was not enlarged. S^3 was increased in intensity and S^2 was normal. A loud S^3 was heard at the apex. The liver was not enlarged, but a spleen tip was palpable one finger-breadth below the left costal border. There was clubbing of both fingers and toes but no cyanosis, edema, or petechiae.

Initial laboratory test reports included hemoglobin 6.9 g, hematocrit 22 per cent, white blood count 7000 with 85 per cent neutrophils, platelets 216,000, reticulocyte count 2.2 per cent, serum iron 43, and iron binding capacity 207. Glucose, blood urea nitrogen, and creatinine were normal. The urine contained 6-8 red blood cells per high power field and 1+ protein. An electrocardiogram and chest x-ray film were within normal limits. Rheumatoid factor was positive 1:80. Lupus erythematosis cell preparation and carcino-embroynic protein determinations were negative. Serum protein immunoglobins showed increased IgG and IgM. Liver and spleen scans showed hepatosplenomegaly. A bone marrow showed active hematopoiesis with normal iron stores, slight eosinophilia and plasmacytosis, but no evidence of tumor cells. Coomb's direct and indirect tests were negative.

Several days after admission the patient developed a classic Osler's node at the tip of his finger, and on the same day his multiple blood cultures were all reported positive for growth of *Pasteurella multocida.*

The patient was begun on treatment of penicillin, 18 million units by intravenous administration daily and because the etiology of the presumed endocarditis was unclear an echocardiogram was performed. It revealed findings consistent with left atrial myxoma. This was further documented by a subsequent right heart catheterization with pulmonary angiography, which showed a large filling defect in the left atrium. It was highly mobile, occupying the left ventricle during diastole and moving back to the left atrium during systole. The right heart pressures were normal.

Three days later the patient underwent operative removal of the left atrial myxoma and pericardial patch reconstruction of atrial septum under cardiopulmonary bypass and moderate hypothermia with topical cardiac hypothermia. At surgery the myxoma was approximately 3×4 cm in diameter with a pedicle at the base of one cm in diameter arising from the atrial septum in the region of the fossa ovalis. On microscopic examination clusters of gram negative rods were seen. There were several punctate 1-2 cm round, slightly ulcerated areas on the mitral leaflets possibly due to bacterial endocarditis; but, for the most part, the valve was normal in appearance. The patient's post operative course was complicated by late cardiac tamponade requiring open drainage on the 11th postoperative day. (See figure 2 for repeat echocardiogram after recovery from late cardiac temponade.) The patient's condition stabilized without further major complications, and he was discharged on 10/10/75. He experienced full recovery and was entirely well when last seen one and one-half years later.

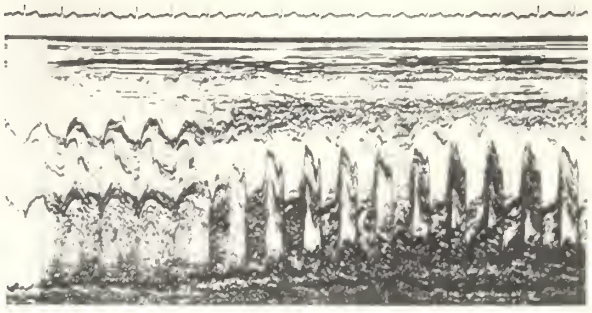

Figure 1: Echocardiographic scan from LV outflow tract to aortic root-demonstrating myxoma (dense echos) located beneath the mitral valve in diastole and prolapsing into left atrium in systole.

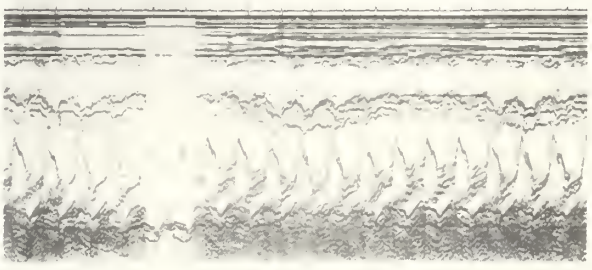

Figure 2: Echocardiography of mitral valve post operatively.

Discussion

In the first two reported cases of infected myxoma a diagnosis was not established even

though positive blood cultures and cerebral emboli were noted.[1,2] In a more recent report the diagnosis was confirmed by echocardiography antemortem, but the patients died shortly thereafter from a ruptured mycotic aneurysm.[4] The only previously reported suvivor also had a cerebral embolus which, coupled with a variable heart murmur, raised the suspicion of a left atrial myxoma and led to successful surgical extirpation of the tumor.[3]

Although the presence of fever, a cardiac murmur, anemia, systemic signs, and embolic phenomena are generally strong evidence of subacute bacterial endocarditis (SBE), cardiac myxoma should be included in the differential diagnosis.[5] The finding of positive blood cultures fails to resolve this differential diagnosis since an infected left atrial myxoma may be indistinguishable from SBE. This case futher demonstrates the value of echocardiography in patients with SBE. In addition to demonsrating valvular vegitations, it may disclose an unexpected myxoma.[6] Although this patient had no overt cerebral emboli, this complication was present in all four previously reported cases. Consequently it would appear advisable to proceed with surgery on an urgent basis after initiation of antibiotic therapy.

Summary

A 29 year-old man presenting with signs and symptoms consistent with SBE was found to have an infected left atrial myxoma by echocardiography and was successfully treated. Only four cases similar to this have been reported previously. Additionally all previous cases had had cerebral emboli, and there was only one survivor among the reported cases. The importance of echocardiography in diagnosis and early surgical intervention in treatment is emphasized.

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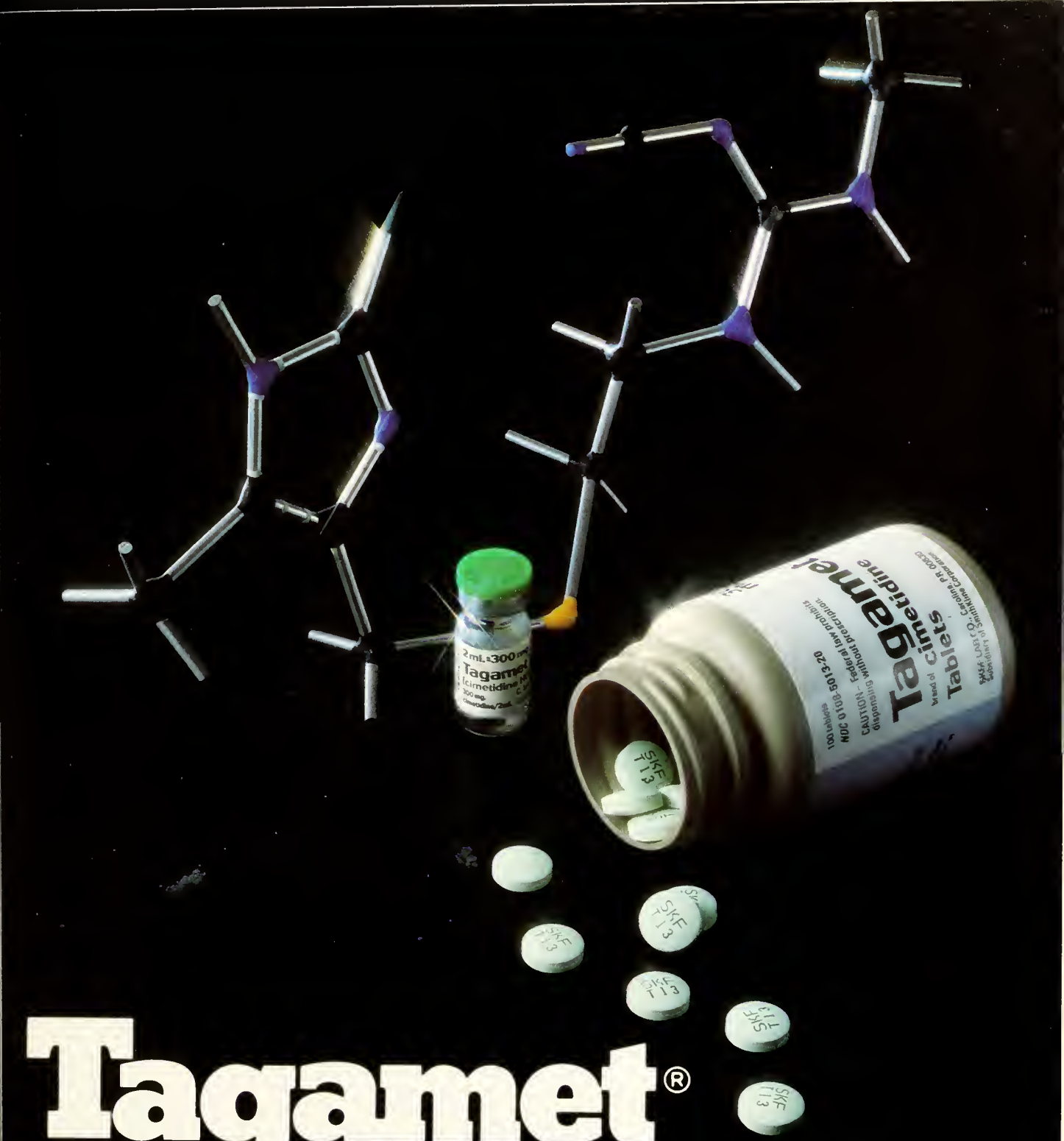

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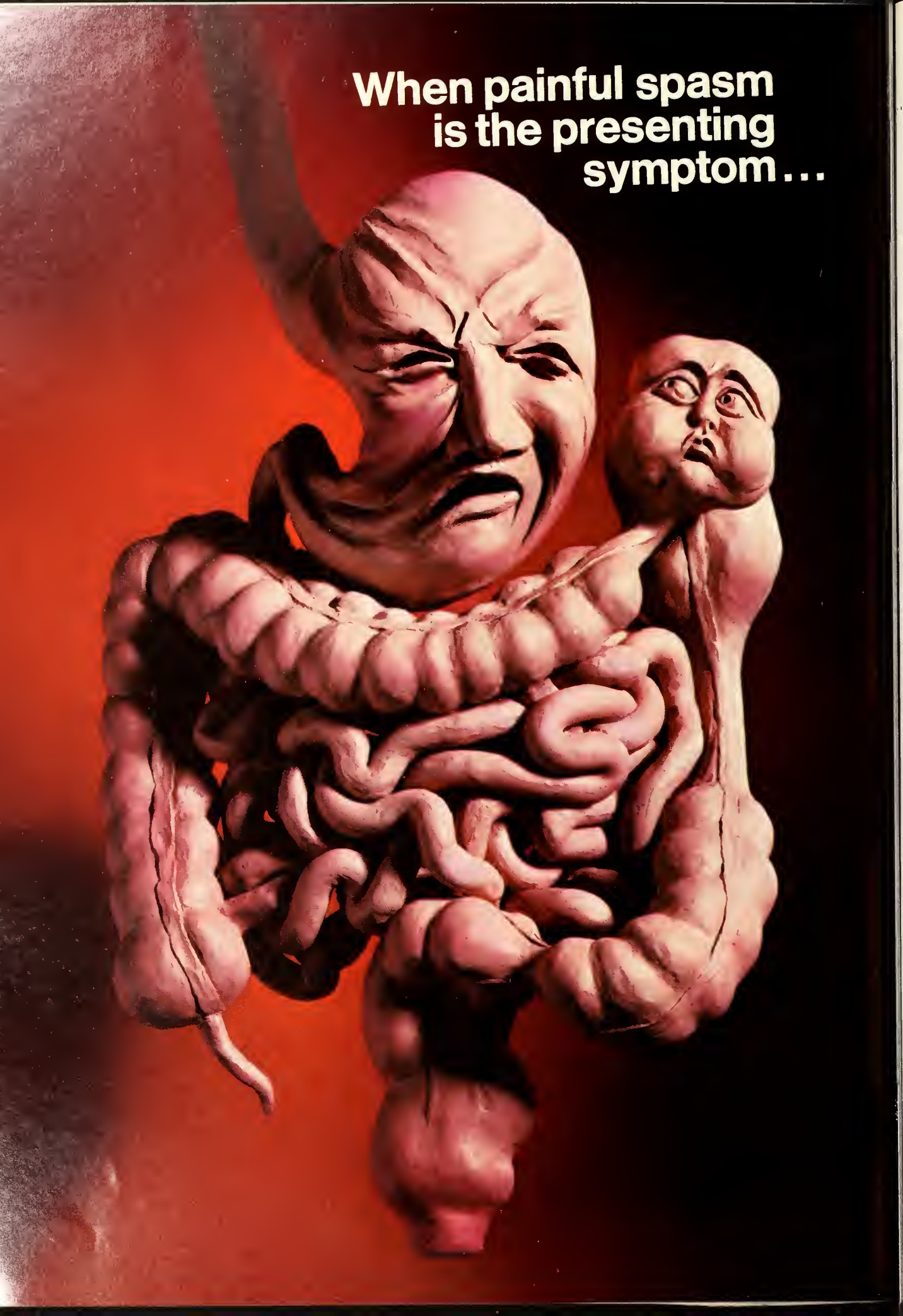
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Reference:
King, J.C. and Starkman, N M.: Evaluation of an antispasmodic. Double-blind evaluation to control gastrointestinal spasms occurring during radiographic examination. A preliminary report. Western Med 5:356-358, 1964

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Final classification of the less-than-effective indications requires further investigation

CONTRAINDICATIONS: Obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); obstructive disease of the gastrointestinal tract (as in achalasia, pyloroduodenal stenosis); paralytic ileus, intestinal atony of the elderly or debilitated patient; unstable cardiovascular status in acute hemorrhage; severe ulcerative colitis; toxic megacolon complicating ulcerative colitis; myasthenia gravis. WARNINGS: In the presence of a high environmental temperature, heat prostration can occur with drug use (fever and heat stroke due to decreased sweating). Diarrhea may be an early symptom of incomplete intestinal obstruction, especially in patients with ileostomy or colostomy. In this instance treatment with this drug would be inappropriate and possibly harmful. Bentyl may produce drowsiness or blurred vision. In this event, the patient should be warned not to engage in activities requiring mental alertness such as operating a motor vehicle or other machinery or perform hazardous work while taking this drug. PRECAUTIONS: Although studies have failed to demonstrate adverse effects of dicyclomine hydrochloride in glaucoma or in patients with prostatic hypertrophy, it should be prescribed with caution in patients known to have or suspected of having glaucoma or prostatic hypertrophy. Use with caution in patients with: autonomic neuropathy; hepatic or renal disease; ulcerative colitis—Large doses may suppress intestinal motility to the point of producing a paralytic ileus and the use of this drug may precipitate or aggravate the serious complication of toxic megacolon; hyperthyroidism, coronary heart disease, congestive heart failure, cardiac arrhythmias, and hypertension; hiatal hernia associated with reflux esophagitis since anticholinergic drugs may aggravate this condition.
It should be noted that the use of anticholinergic/antispasmodic drugs in the treatment of gastric ulcer may produce a delay in gastric emptying time and may complicate such therapy (antral stasis). Do not rely on the use of the drug in the presence of complication of biliary tract disease. Investigate any tachycardia before giving anticholinergic (atropine-like) drugs since they may increase the heart rate. With overdosage, a curare-like action may occur. ADVERSE REACTIONS: Anticholinergics/antispasmodics produce certain effects which may be physiologic or toxic depending upon the individual patient's response. The physician must delineate these. Adverse reactions may include xerostomia; urinary hesitancy and retention; blurred vision and tachycardia; palpitations; mydriasis, cycloplegia; increased ocular tension; loss of taste; headache, nervousness; drowsiness; weakness; dizziness; insomnia, nausea; vomiting; impotence, suppression of lactation; constipation; bloated feeling; severe allergic reaction or drug idiosyncrasies including anaphylaxis; urticaria and other dermal manifestations; some degree of mental confusion and/or excitement, especially in elderly persons; and decreased sweating. With the injectable form there may be a temporary sensation of lightheadedness and occasionally local irritation. DOSAGE AND ADMINISTRATION: Dosage must be adjusted to individual patient's needs.
Usual Dosage: Bentyl 10 mg. capsule and syrup: *Adults*: 1 or 2 capsules or teaspoonfuls syrup three or four times daily. *Children*: 1 capsule or teaspoonful syrup three or four times daily. *Infants*: ½ teaspoonful syrup three or four times daily. (May be diluted with equal volume of water.) Bentyl 20 mg.: *Adults*: 1 tablet three or four times daily. Bentyl Injection: *Adults*: 2 ml. (20 mg.) every four to six hours intramuscularly only. NOT FOR INTRAVENOUS USE. MANAGEMENT OF OVERDOSE: The signs and symptoms of overdose are headache, nausea, vomiting, blurred vision, dilated pupils, hot, dry skin, dizziness, dryness of the mouth, difficulty in swallowing, CNS stimulation. Treatment should consist of gastric lavage, emetics, and activated charcoal. Barbiturates may be used either orally or intramuscularly for sedation but they should not be used if Bentyl with Phenobarbital has been ingested. If indicated, parenteral cholinergic agents such as Urecholine® (bethanecol chloride USP) should be used.
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The Physician And The Counselor: A New Health Care Alliance

For Many Problems The Need Is For Relatively Short-Term Counseling

By Jerry M. Hatfield, M Ed

If our purpose as helping professionals is to effect the health and general well-being of the total person, then it is important to bring about a professional alliance between the practice of medicine and the practice of counseling. It has long been common for physicians to refer a patient to another physician in order for a more complete and accurate diagnosis to be made. There is, however, another type of referral, one which is probably under-utilized, but which may be as important as any other type of referral in the process of arriving at a complete diagnosis and treatment of the whole person. This referral is made to the professional counselor.

It is important to try to resolve some of the confusion that exists in titles and terminology. Physicians are familiar with the referral to the psychiatrist. It is not the purpose of this paper to diminish the importance of this diagnostic resource, but rather to augment and expand the alternatives available to the referring physician. This task is a difficult one at best, since the roles of the psychiatrist and other professional counselors sometimes overlap. While Bibring[1] describes the counselor as one who focuses primarily on adjustment, with little or no interpretation, Kaplan[2] counters by stating that "It seems evident that both psychiatrists and social workers treat the basic psychopathology as well as the clinical disorder...." Leaving this seemingly interminable discussion for another study, one of the intents here is to describe the various roles and functions found in the counseling field.

A counselor may be thought of as one who has attained at least a Master's degree in one of the fields of applied psychology. Counselor training commonly reflects a background in psychopathology, assessment and diagnosis, and therapeutic skills. While some counselors tend to specialize in group therapy, marriage and family counseling, adolescent and child counseling, or behavior therapy, others maintain a general practice. Counselors may work in public agencies (community mental health centers, for example) or in private practice. Typically counselors work with problems of personal adjustment, educational and vocational choices, family and marital conflicts, alcoholism and drug addic-

JERRY M. HATFIELD, M Ed, *Project Coordinator of the paraprofessional mental health worker training program at the Rhode Island Institute of Mental Health.*

tion, some neuroses, and some character disorders, but rarely with psychoses or organic dysfunctions. Brammer and Shostrom[3] provide a more definitive discussion of the specific functions and therapeutic characteristics of the various helping professions.

There are also numerous levels and degrees of involvement in the counseling process. The physician may refer a patient to a counselor for either consultation or general therapy. The counselor to whom the patient is referred will then proceed through the process of an assessment of problem categories with the patient. Once the assessment is complete (usually after a few sessions, although this depends on the readiness of the patient and the nature of the problem) the counselor will then determine if the patient's problems are within his/her scope of competence, and with the patient determine the direction and duration of therapy.

Criteria for Counselor Selection

The physician's selection of a counselor is as important as the selection of any other health care provider. Some general guidelines, not in order of importance, and none of which are absolute predictors of quality of care, follow:

1. *The warmth and genuineness of the counselor.* This judgement can be made only after a personal meeting with the counselor. Although this is a subjective judgement on the part of the physician, the bulk of the literature agrees that this genuineness and warmth is a vital quality (Patterson)[4].

2. *Adherence to a code of ethics.* Laws concerning confidentiality and privileged information vary from state to state and may conflict with any given code of ethics. The referring physician, however, has the right to inquire about ethical standards. The American Psychological Association has an exemplary code of ethics[5] to which all members must subscribe. The American Personnel and Guidance Association has a similar code,[6] although more educationally oriented. Many other professional organizations also have codes of ethics applicable to their disciplines.

Of paramount importance here is the counselor's recognition of his/her personal limitations and the limitations of the profession. The physician should beware of the counselor who is willing to diagnose and treat any and all previously undiagnosed disorders. The state of the profession and level of knowledge is simply not that advanced.

3. *Credentials and memberships.* Continuing professional education is as important to the counselor as it is to the physician, and should be considered indicative of an up-to-date therapist. Some organizational memberships are merely a matter of paying dues. Others, however, carry some credence and worth and must be earned through supervised experience. Further, the counselor should be willing to fully discuss his/her background and qualifications.

4. *Associates and reputation.* Is the counselor or clinic well-known in your area? The counselor's associates and location are indicators of the general level of professionalism and the general quality of the counselor.

5. *Patient feedback.* Without breaching the confidentiality of the counselor-patient relationship, the referring physician may inquire about the patient's general impression of the counselor. This feedback, however, must always be tempered with the understanding that the patient may have terminated the relationship when the counselor became too confrontive or got too close to the problem. Patients frequently seek help and then resist that help due to the discomfort involved in behavior change.

When Is A Referral Indicated?

When, then, is it appropriate for a physician to refer a patient to a counselor? Although the following list (albeit not exhaustive) is categorized by type of medical practice, the indicators overlap into each area. Although Brosin[7] indicates three categories of referrals (1. Physical signs and symptoms triggering the referral; 2. Administrative and legal needs for a psychiatrist's opinion) this paper will concentrate on his third category; the physician's desire for greater understanding of the patient.

General or Family Practice

1. *When medication is specifically sought.* Psychoactive drugs have afforded great strides in the improvement of medical and mental health care. They are equally capable of abuse, however, not only in masking the causes of discomfort, but also in offering a

dangerously easy solution, with potentially greater discomfort.

2. *When all the tests ordered are negative, and the patient still complains.* The responsible counselor will not guarantee a solution, but many times will be able to identify and help the client cope with psychologically based discomfort and its causes. This is especially true when the undiagnosed pain occurs in the musculoskeletal system, the nervous system, or the gastrointestinal system. (Schwab, et al)[8].

3. *When there has been a recent change in behavior or environment.* The patient may complain of vague or generalized discomfort. In questioning, the physician may discover recent changes, i.e. marital problems, death, divorce, family disturbances, sexual activity, sleep habits, and eating habits. These changes, coupled with physiological discomfort, are fairly clear indicators of the need for counseling. The physician may assume that if there was sufficient motivation to go to the doctor, then the problem is worth treating.

4. *When there may be a drug- (including alcohol) related problem.* If the consumption of any drug, including alcohol, regardless of amount, creates disorder in one's life (including family and friends) then it is a problem worthy of attention. The physician, however, may expect considerable resistance to a referral, and perhaps complete denial of the problem.

5. *When the patient is desperate.* With stigmas still attached to mental health treatment, it is often easier to call the doctor than to call the counselor in time of crisis. These times of crisis, however, are the most valuable time for counseling, since the patient is usually very cooperative in seeking a relief from psychic pain.

Pediatrics

1. *When the parent reports a sudden change in behavior.* Behavior changes are normal during children's development, but abnormal changes warrant attention. Family stress is also frequently mirrored in the child's behavior, and a problem identified as the child's is sometimes used by the child to hold the family together.

2. *When school problems impact on general health, or when the school suggests help.*

3. *When adolescence poses problems for both the patient and the parents.* Parents and their children frequently need to learn new communication methods to get through this difficult period.

4. *When the parent expresses concerns about child-rearing techniques.* These techniques are not natural — they must be learned, and can be improved in a non-threatening way in counseling.

5. *When the patient experiments with drugs (including alcohol).* This experimentation may indicate serious problems, or just simple curiosity, but must not be ignored.

Pediatric referrals may be particularly threatening for parents. Mental illness, or even the suggestion of it is still threatening to many people, and the threat is even greater when it involves one's child. Anger, resentment, and guilt may be expected from the parent (Shaw and Lucas)[9], i.e. anger and resentment about the physician's referral, and guilt about not being a good enough parent or guilt tinged with self-pity. The physician must impress the patient with the importance of dealing with problems at an early stage as a means of preventive mental health care.

Obstetrics and Gynecology

1. *When a young patient begins sexual activity.* Age, motivation, and extensive questioning may indicate the need to explore values and attitudes.

2. *When the patient expreses ambivalence concerning sterilization.* The finality of this procedure mandates very careful consideration which may be aided by the counselor.

3. *When normal post-partum depression becomes debilitating.* The counselor may offer supportive therapy during this period of physiological transition.

4. *When there is abnormal fear regarding pregnancy, current or future.* These fears may indicate a need to consider deeply the ramifications of pregnancy and the source of the fears.

5. *When the patient is feeling trapped.* Frequently the patient needs help in looking at her new lifestyle and its alternatives.

6. *When an abortion has occurred or is planned.* Although the responsible counselor will not judge the patient's decision, many feelings and emotions need to be explored. Depression and guilt concerning the loss are common and need to be dealt with.

How To Make The Referral

Schwab[10] offers some valuable guidelines for making a referral to a counselor:

1. Through an open and honest discussion, indicate that there may be an emotional cause for the illness that must not be ignored, but that the referral does not mean that a psychogenic origin is definite.

2. Encourage the patient to express his/her feelings about the referral. This provides the physician with the opportunity to alleviate any distorted fears and offer assurance regarding the competence of the counselor.

3. Encourage realistic expectations. Indicate to the patient that this referral will not lead to miracle cures, but rather will offer an opportunity to look at the problem from another perspective.

4. The referral should not be treated as a last resort measure. This approach places undue pressure on the counselor and may encourage unrealistic expectations by the patient.

Summary

Clearly, for many of these problems the need is for relatively short-term counseling. Indeed, that is a major function of counselors. Many people have neither the desire nor the need for long-term therapy, frequently associated with the practice of counseling. In fact, the concept of goal-oriented, short-term therapy should be emphasized (though not guaranteed) by the referring physician in order to dispell the patient's fears of years of the stereotypical psychoanalysis.

The concepts brought forth here should help the physician to expand the alternative referral opportunities with the ultimate goal of treating the whole person. Caution must be used, however, in the selection of the counselor, and sensitivity is needed in exploring the patient's needs. Both the physician and the patient will benefit from this increased understanding.

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Editorial

New Plans For The Center General Hospital

The recently announced plans for a new facility at the Rhode Island Medical Center should come as good news for all who are interested in seeing an upgrading of our state institutions at Howard. The plans call for a new $12.4 million building at the General Hospital to house 105 new beds and new x-ray, electrocardiography, laboratory, and technical services, as well as ophthalmology, dental, orthopedic, gynecological, hearing, speech, optometric, pediatric, and ear, nose, and throat clinics to replace inadequate, dingy, or worn-out facilities now in use.

The 105 beds will include a 30-bed admission unit, a 10-bed gerontological research unit, 35 beds for rehabilitation, and a 30-bed medical service unit. There will also be a 200-seat auditorium and a central kitchen and dining area. In accordance with state planning policy, this will result not in an increase in total bed capacity, but rather a net reduction from 661 to 648. This of necessity implies an upgrading of 105 beds. It will permit at long last the closing of several antiquated back buildings still in use. The average census has dropped in three years to 661 from 1,099 patients, indicating a striking implementation of the policy of de-warehousing patients in accordance with modern concepts and the expressed philosophy of Doctor Joseph J. Bevilacqua, Director of the Department of Mental Health, Retardation and Hospitals. It accords with his concepts of evolution from a custodial institution for chronically ill and elderly patients to an active treatment and research center which will provide a progressively wider range of health and rehabilitative services. It is hoped that the medical academic community and Brown University will participate increasingly in future developments, both clinical and investigative.

When the facility is completed, now projected for the fall of 1981, it will provide also a training facility for professional and technical personnel involved in the management of the elderly, the handicapped, and the chronically ill.

A token of the improvement in the general quality of care at the General Hospital which has already taken place was the recent two-year accreditation (the first ever to this hospital) by the Joint Commission on Accreditation of Hospitals. Doctor Bevilacqua and his associates; Doctor Johannes Virks, the Medical Director of General Hospital; and the State of Rhode Island have reason to feel proud of these achievements.

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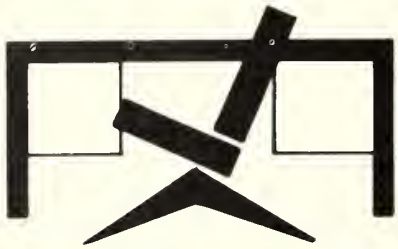

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PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.
ADVERSE REACTIONS: *Cardiovascular*: Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. *Central Nervous System*: Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. *Gastrointestinal*: Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. *Allergic*: Urticaria, rash, ecchymosis, erythema. *Endocrine*: Impotence, changes in libido, gynecomastia, menstrual upset. *Hematopoietic System*: Bone marrow depression, agranulocytosis, leukopenia. *Miscellaneous*: A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.
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Guest Editorial

Meniere's Syndrome — Present Therapy

The problem of Meniere's Syndrome is as prevalent as ever. The classic triad of tinnitus, vertigo and variable neurosensory hearing loss is most often the presenting complaint. Some patients will describe a fullness in the affected ear as well. Usually, a low-tone hearing loss is noted initially, followed by vertigo, nausea, vomiting and perspiration. The attack is usually about 30 minutes with fatigue a prominent factor.

The frequency of attacks is variable. They may clear for years, or progress on to permanent hearing loss with incapacity. Others may lose the acute form, but have a constant feeling of unsteadiness in the "burned out Meniere's." The tinnitus and fullness may remain between attacks and be the primary complaint later in the disease.

The differential diagnosis should include lues in the bilateral cases; acoustic neuroma; vascular insufficiency; thyroid insufficiency; allergy; hypoglycemia; lipidemia, and more unusual, cerebellopontine angle tumors.

The diagnostic evaluation may include petrous bone x-ray studies; site of lesion audiometric evaluation; caloric or electronystagmographic testing; also screening blood profile, including FTA/Abs and total IgE.

The pathological disorder is thought by most to be an increase in the fluid pressure within the membranous inner ear. Whether this is over-production or reduced absorption is still argued.

The treatment in cases with no known cause initially is medically designed to reduce fluid consumption and retention, depress the nausea, and tranquillize the labryinth. The acute cases occasionally respond to intramuscular Innovar, ® but must be observed closely. Valium,® Pro-banthine,® and Dyazide® together usually will control attacks, but Meclizine® or Dramamine® work in some.

Of early cases unresponsive to medical therapy with variable hearing, 60 per cent will be significantly helped with surgical decompression of the endolymphatic sac into the mastoid. In those with serviceable hearing who fail to respond to sac decompression, over 95 per cent will be returned to useful health with selective vestibular nerve action. For those furthest along in the spectrum with no hearing, labryinthectomy is available with or without 8th nerve section depending on the tinnitus.

The complications of surgery are fairly constant in most series, with a less than 4 percent incidence of cerebrospinal fluid leak, neurosensory hearing loss, or facial nerve weakness. Meningitis is extremely rare, but possible.

The results of treatment of Meniere's syndrome have improved over the past few years with the advent of microsurgical otological and neurosurgical techniques so that a comfortable life can be offered to those previously devastated by overwhelming vertigo.

Charles L. Hill, MD

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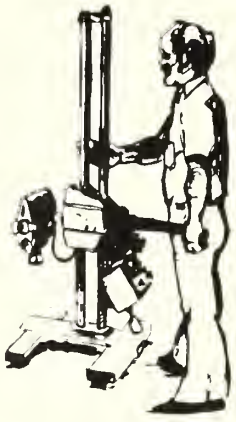

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Editor's Mailbox

A Reassessment of the Responsibility of the RIMS to its Constituency

To the Editor:

Institutions, like all living things, must adapt to and cope with changing needs, or perish. Historically medical societies, be they local, state or national, were staid clubs, comfortable in their esteemed image, dedicated to promoting the public good and committed to satisfying the educational and scientific needs of the membership. Since there were no major medical-political or medical-economic issues, these subjects were unmentionables in such clubs.

The AMA nationally was one of the first medical societies to recognize the rapidly deteriorating position of its membership. Of necessity it had to alter its posture and become aggressively involved in the ominous political and financial strictures being forced on private practice. The medical profession looks anxiously to the leadership role of the AMA in these matters. Indeed, many feel that the AMA has not been effective enough in its role as political and economic advocate for the medical profession.

The RIMS grudgingly had to alter its own lofty posture, and has been forced by new realities to embark on an uncharted course in politics and medical economics. Up to the recent past we were poorly prepared to cope with these new challenges. Who among us has the legal, political, and economic training and background to cope with these issues? Understandably we are uncomfortable and insecure in these new roles. The disastrous consequences of the recent malpractice crisis

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and the more recent politically mandated financial strictures on private practice clearly illustrate the need for reform and reassessment of our responsibilities to our constituency.

It would seem appropriate then for the leadership of the RIMS to redefine its role in terms of current needs. The issues and challenges of today are far different from those facing the Society at its founding. The necessity of addressing this fundamental premise is a pressing issue. The practice of medicine as we know it in Rhode Island is at stake.

The time has come to embrace formally the role of political and economic advocate for our membership with vigor and enthusiasm. The RIMS should take the unequivocal position that it will strengthen these roles, as it is the only viable mechanism for the membership to protect itself from the ominous constraints being imposed on private practice in Rhode Island.

To this end, I recommend that a blue ribbon commission be established to reassess the responsibility of the Society to its membership and recommend any organizational changes needed to meet these issues. We need on board legal, political, and economic consultants, and should consider them as an integral part of a new organizational plan.

Changes and additions in our organization and the positive programs that should follow will cause a serious financial strain on our Society. The cost of this updated posture will require an increase in dues which an enlightened and reassured membership will support. Additionally, there is no doubt that there will have to be reallocation of available funds based on these overriding priorities. We no longer can afford the luxury of being all things to all people and causes. There will have to be painful trade-offs. These hard decisions must be made in the light of the new mission which has been thrust upon this Society. In the final analysis, we must recognize that the increased cost is miniscule compared with the growing financial constraints being imposed on us under our existing mode of operation.

The hour is late. The threats are multiplying, and precious little time is left to make a viable effort not only to preserve the practice of medicine in Rhode Island as we know it, but to promote it.

Erminio Cardi, M. D.

Rhode Island Medical Journal

December, 1978 Vol. 61, No. 12

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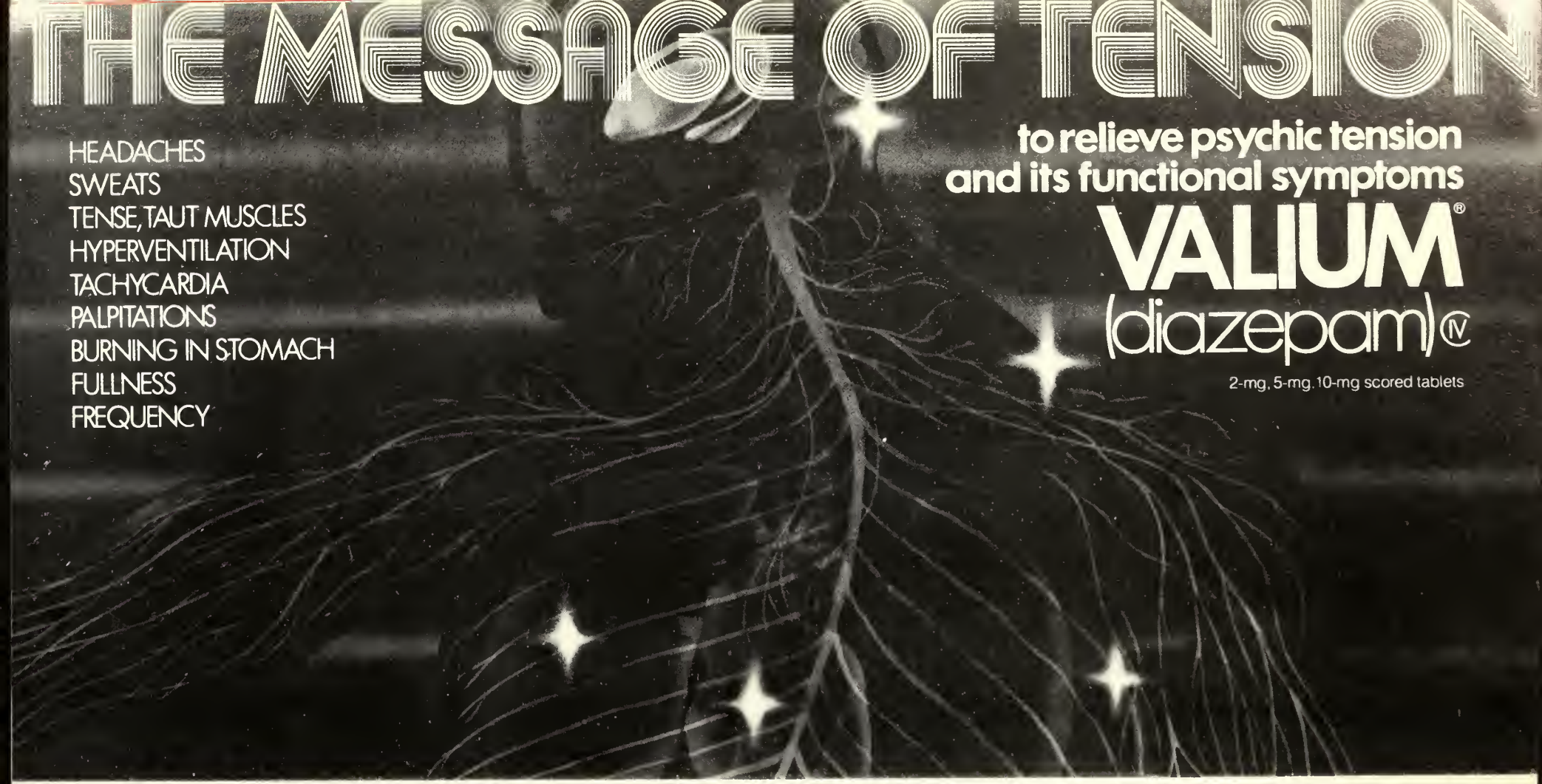
Interface — Rhode Island Medical Society

CME Calendar Enclosed



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The effectiveness of Valium in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should period-

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma, may be used in patients with open angle glaucoma who are receiving appropriate therapy.
Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**
Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or over-

hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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LUNCHEON

AFTERNOON SESSION: THE CORONARY BYPASS CONTROVERSY

"**The Surgical View**" by Mortimer J. Buckley, MD,
Chief, Cardiac Surgical Unit, Massachusetts General Hospital;
Professor of Surgery, Harvard Medical School

"**The Medical View**" by Henry D. McIntosh, MD,
Past President, American College of Cardiology;
Adjunct Professor of Medicine, Baylor University;
Clinical Professor of Medicine, University of Florida, School of Medicine

This program has been approved for 5 hours credit by the American Medical Association, Category 1.

Rhode Island Medical Journal

DECEMBER, 1978 VOLUME 61, No. 12

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Continuing Medical Education Calendar of Events

prepared by
BROWN UNIVERSITY
Office of Continuing Medical Education

and
RHODE ISLAND MEDICAL SOCIETY
Continuing Medical Education Committee

WINTER-SPRING, 1979

A MESSAGE TO OUR READERS:

Once again, the Rhode Island Medical Society and the Brown University Office of Continuing Medical Education would like to thank the contributors to our calendar of continuing medical education events and to ask now that attention be directed to planning for submission of activities for the next calendar. Items for publication in the fall calendar (covering activities from September through December, 1979) should be submitted by July 15, 1979, for publication in the August issue of the Rhode Island Medical Journal. A reminder to this effect will be sent in late spring of 1979. It is our hope to have ever increasing participation in the calendar and, therefore, we solicit and welcome new contributors.

Inquiries should be directed to Mrs. Irene Owens, Brown University Office of Continuing Education, 863-3337.

Those interested in attending any of the below listed activities should check with the contact person listed for each event. Many of these programs were scheduled far in advance and it is prudent to verify the information.

Please save these pages for future reference.

I. SYMPOSIA, COURSES, AND OTHER SPECIAL EVENTS

BOARD REVIEW COURSE IN INTERNAL MEDICINE sponsored by the Brown University Office of Continuing Medical Education and the Department of Medicine, Rhode Island Hospital. Course will be held weekly, on Tuesdays, January 9 through June 26, 1979, from 7:00 to 9:00 p.m. in the George Building Auditorium, Rhode Island Hospital, 593 Eddy St., Providence, R.I. Fee is $125 for practicing physicians and $75 for residents. Course schedule is as follows:

Tuesday, January 9, 16, and 23
Gastroenterology—Jose Behar, MD, Assistant Professor of Medicine, Brown University; Nicholas R. Califano, MD, Clinical Instructor of Medicine, Brown University; and Edward A. Iannuccilli, MD, Clinical Assistant Professor of Medicine, Brown University

Tuesday, January 30
Infectious Disease—Stephen H. Zinner, MD, Associate Professor of Medicine, Brown University

Tuesday, February 6
Infectious Disease—Georges Peter, MD, Associate Professor of Pediatrics, Brown University

Tuesday, February 13
Immunology—Joel K. Weltman, MD, PhD, Associate Professor of Medicine (Research), Brown University

Tuesday, February 20
Endocrinology—Milton W. Hamolsky, MD, Professor of Medicine, Brown University

Tuesday, February 27
Endocrinology—Joseph R. Tucci, MD, Associate Professor of Medicine, Brown University

Tuesday, March 6
Endocrinology (7-8 p.m.)—Charles B. Kohn, MD, Clinical Assistant Professor of Medicine, Brown University
Pulmonary (8-9 p.m.)—Sidney S. Brohom, MD, Assistant Professor of Medicine, Brown University; William M. Corroo, MD, Assistant Professor of Medicine, Brown University

Tuesday, March 13 and 20
Pulmonary—Doctors Broman and Corrao

Tuesday, March 27, April 3 and 10
Cardiology—Albert S. Most, MD, Associate Professor of Medicine, Brown University; David O. Williams, MD, Assistant Professor of Medicine, Brown University

Tuesday, April 17 and 24
Renal—J. Gary Abuelo, MD, Assistant Professor of Medicine, Brown University; Serafino Gorello, MD, Associate Professor of Medicine, Brown University; Sewell I. Kahn, MD, Assistant Professor of Medicine, Brown University

Tuesday, May 1, 8, and 15
Hematology—Maurice M. Albolo, MD, Associate Professor of Medicine, Brown University; James P. Crowley, MD, Assistant Professor of Medicine, Brown University

Tuesday, May 22
Oncology—Francis J. Cummings, MD, Assistant Professor of Medicine, Brown University

Tuesday, May 29 and June 5
Neurology—Pasquale F. Finelli, MD, Assistant Professor of Medicine, Brown University; Thomas F. Morgan, MD, Clinical Assistant Professor of Medicine, Brown University

Tuesday, June 12 and 19
Rheumatology—Stephen R. Koplon, MD, Associate Professor of Medicine, Brown University

Tuesday, June 26
Dermatology—Joseph C. Alper, MD, Assistant Professor of Medicine, Brown University

Contact: Irene Owens, 863-3337 Credit: 2 hours Category 1 per session

SEMINAR—"GENITOURINARY DISORDERS" presented by the Rhode Island Society of Osteopathic Physicians and Surgeons on Saturday, January 27, 1979 at 8:00 a.m. at Valle's at the Airport. Lectures will be: "Urologic Oncology" by V. Rege, MD; "The Enlarged Prostate—A Surgeon's Approach" by John F. Maynard, MD; "An Approach to the Patient in Renal Failure" by Joseph Pitone, DO; "Renal Imaging" by James P. Osmonski, DO; and "Renal Calculi—Medical and Surgical Approach" by Stuart A. Brodsky, DO. Pre-registration fee is $25.00 and fee for registration on the day of the seminar is $35.00 (both include lunch).

Contact: Doctor Osmonski, 461-5400, Ext. 27 or 33

Note: Future programs sponsored by the Rhode Island Society of Osteopathic Physicians and Surgeons:
March, 1979, "Rheumatology"
May, 1979, "Human Sexuality"

COURSE—SELECTED TOPICS IN INTERNAL MEDICINE AND FAMILY PRACTICE sponsored by The Memorial Hospital under the supervision of Robert P. McCombs, MD, Director, Continuing Medical Education. Course is held on Monday evenings, 7:30 to 9:00 p.m. to May 21, 1979, in the Nurses' Auditorium. Physicians may register for **individual** sessions upon payment of $10.00 at the door (residents and students $5.00).

February 26
"Seizure Disorders" by Bruce Ehrenberg, MD, Director, Clinical Neurophysiology Laboratory (EEG & EMG), N.E. Medical Center

March 5
"Headaches" by John R. Hills, MD, Neurologist, New England Medical Center Hospital; Associate Professor, Tufts University

March 12

"Porkinsonism ond other Movement Disorders" by John H. Crowdon, MD, Neurologist, New Englond Medical Center Hospitol; Assistont Professor, Tufts University

March 19

"Neuropathies ond Myopothies" by Wolter G. Brodley, MD, Professor of Neurology; Vice Choirmon, Deportment of Neurology, Tufts New Englond Medicol Center

March 26

"Alcoholic Neurologicol Diseoses" and "Whot to do with o Stroke Potient ot Home and in Community Hospitols" by Raymond Adoms, MD, Senior Consultont in Neurology, Mossochusetts Generol Hospital; Bullord Professor of Neuropothology Emeritus, Horvord Medicol School

April 2

"Sex Counselling in Office Proctice" by Jomes Prochosko, PhD, Consultont, Child ond Fomily Service, Newport, R.I. ond Jonice Prochasko, ACSW, Director of Professionol Services, Child and Fomily Services, Newport, R.I.

April 9

"Behovior Problems in Children" by Louis I. Hochheiser, MD, Physicion-in-Chief, Fomily Medicine, The Memoriol Hospitol; Associote Professor ond Choirmon, Section of Family Medicine, Brown University

April 16

"Eye Problems—When to Treot?" ond "Introoculor Lenses" by Jules Boum, MD, Senior Surgeon, New Englond Medicol Center Hospitol; Professor of Ophtholmology, Tufts University School of Medicine

April 23

"Monogement of Sexual Assoult Victim" by John Evrord, MD, Associote Director of Community Reproductive Heolth Services, Women ond Infonts Hospitol; Associote Professor of Reproductive and Developmentol Medicine (Ob/Gyn), Brown University (ot 7:30) and "Rehobilitotion of the Alcoholic" by Dovid C. Lewis, MD, Director, Division of Alcoholism ond Substonces Abuse, Roger Willioms Generol Hospital; Associote Professor of Medicine, Brown University (at 8:30)

April 30

"Bronchiol Asthmo: Couses" by John L. Ohman, MD, Clinicol Assistont Professor of Medicine, Mossochusetts Generol Hospitol; Clinicol Instructor of Medicine, Horvord Medicol School; Associote in Medicine, Tufts N.E. Medicol Center (ot 7:30) ond "Myths Regording its Treotment" by Robert P. McCombs, MD, Professor of Medicine Emeritus, Tufts University School of Medicine; Lecturer in Medicine, Brown University (ot 8:30)

May 7

"Immunotheropy, Drug Allergy, Insect Allergy, ond other Allergies" by Robert P. McCombs, MD, ond John L. Ohmon, MD

May 14

"Advonces in Dermatology of Importonce to Proctitioners" by Chorles McDonald, MD, Heod, Division of Dermotology, Roger Willioms Generol Hospitol; Professor ond Heod of Subsection of Dermotology, Brown University

May 21

"Recent Advonces for Orthopedics" by Jomes H. Herndon, MD, Chief of Orthopedic Surgery, Rhode Islond Hospitol; Professor of Surgery, Brown University

Contoct: Libby Broy, 722-6000, Ext. 2142

Credit: 1½ hours Cotegory 1 per session
1½ hours AAFP

THE FIFTEENTH ANNUAL DENTISTRY/MEDICINE INTERFACE SYMPOSIUM sponsored by the Brown University Progrom in Medicine ond the Americon Academy of Orol Medicine to be held on Soturdoy, April 28, 1979, from 1-5 p.m. ond Sundoy, April 29, from 9 o.m. to 12 noon, in Ress Auditorium, Borus & Holley Building, George ond Hope Streets, Providence, R.I. The 1979 Symposium, offering newer concepts in orol pothology and theropy for interested dentists, physicions, ond ollied heolth professionol personnel, will focus on "The Monogement of Orol ond Facial Pain." Coll for further informotion.

Contact: Irene Owens, 863-3337

Credit: Cotegory 1 PRA, AGD, and ADA being opplied for

EIGHTH ANNUAL ROBERT H. WHITMARSH ORATION presented by the Deportment of Surgery, Roger Willioms Generol Hospitol, to be held doily from 9:00 to 11:00 o.m. on Moy 9 ond 10, 1979, ot the Morriott Inn, Providence, R.I. Lecturers will be: Poul Jordon, Jr., MD, Boylor University; Michael Turner, MD, Chief, Medicol Service, Providence VA Hospitol ond Professor of Medicine, Brown University; John Broosch, MD, Lohey Clinic, Boston, Mossachusetts. Call for further informotion.

Contoct: Debbi Fogorty, 456-2034 Credit: 4 hours Category 1

SECOND ANNUAL ALDEN H. BLACKMAN MEMORIAL LECTURE presented by the Deportment of Medicine, Roger Willioms General Hospitol, to be held in the lost week of Moy, 1979, in Koy Auditorium ot the Hospital. Speoker will be: Morvin H. Sleisenger, MD, Professor of Medicine ond Choirmon, Department of Medicine, University of Californio School of Medicine, Son Froncisco, Colifornia. Pleose coll for exoct dote, time, ond topic. No fee.

Contoct: Debbi Fogorty, 456-2034 Credit: 1 hour Cotegory 1

PHYSICIANS' FORUM sponsored by the New England Institute of Alcohol Studies in conjunction with their School of Alcohol Studies which is held onnually on o college compus ond is designed to provide an overview of bosic problems reloted to alcohol, alcoholism, ond substonce obuse. Both the School ond the Physicions' Forum will be held this yeor on the compus of Roger Williams College, Bristol, R.I.; the School from June 17 through 22, 1979, ond the Physicions' Forum from 9 o.m. to 6 p.m. on June 20, 1979. Pleose call for further informotion.

Contoct: Jon Swift Durond, (203) 669-8793
or Irene Owens, 863-3337

Credit: Cotegory 1 credit for Physicions' Forum being opplied for

COURSE—"MENTAL ILLNESS AND PSYCHOTROPIC MEDICATION" sponsored by the Institute of Mentol Heolth, Deportment of Mentol Heolth, Retordotion ond Hospitols ond Brown University. Lectures ore held Thursdoys from 2:30 p.m. to 4:00 p.m., ot the Institute of Mentol Heolth, A-Building, Librory Lecture Room. The course, which begon in September 1978, continues through Moy 9 1979.

Contact: Doctor M. Bouermeister, 464-2451 Credit: 1½ hours Category 1 per lecture

II. REGULARLY SCHEDULED HOSPITAL PROGRAMS

CRANSTON GENERAL HOSPITAL regularly scheduled programs held in the Hospital Auditorium. Schedule as follows:

1st Monday, **Internal Medicine Department** presents lectures and clinical review at 11:30 a.m. (lunch)

2nd Monday, **Oncology Department** presents lectures and clinical review at 11:30 a.m. (lunch)

3rd Monday, **Surgery Department** presents lectures and clinical review at 11:30 a.m. (lunch)

4th Monday, **Multidisciplinary—C.P.C.**, case presentations at 11:30 a.m. (lunch)

1st and 3rd Tuesdays, **Electrocardiogram Course** presented by Internal Medicine Department, J. W. Abar, DO, at 11:00 a.m.

1st and 4th Wednesdays at 11:00 a.m. and *3rd Wednesday* at 12:00 noon, **Radiology Conferences** presented by Earl Travis and James Osmanski, DO

1st Thursday, **Osteopathic Principles and Practice** at 11:00 a.m.

Contact: Doctor Alexander, 461-5400

GENERAL HOSPITAL, RHODE ISLAND MEDICAL CENTER

Clinical and Pathological Laboratory Conferences. Sessions are held on the last Wednesday of the month at 1:30 p.m. in the Mathias Laboratory Classroom. Schedule as follows: January 31, February 28, March 28, April 25, May 30

Contact: Doctor Hassid, 464-3493 Credit: 1 hour Category 1

Clinical Pathological Conferences (Case Presentations). Sessions are held monthly on Thursdays at 1:30 p.m. in the Mathias Laboratory Classroom. Moderators are Samuel Hassid, MD, Clinical Director and S. Pogacar, MD, Clinical Director, Neuropathology. Dates are as follows: January 18, February 15, March 15, April 12, May 17, June 14. Discussant on Thursday, May 17, will be Maurice M. Albala, MD, Associate Professor of Medicine, Brown University

Contact: Doctor Hassid, 464-3493 Credit: 1½ hours Category 1

KENT COUNTY HOSPITAL Medical Education Conferences. Sessions are held on Fridays at 11:30 a.m. in the Doctors Auditorium. Schedule is as follows:

January 12
"Respiratory Failure, Recognition and Management" by Robert Baute and J. Padayhag, MD, Department of Internal Medicine, KCMH

January 19
"Breast Exam" by Wendy Logan, MD, Department of Radiology, KCMH

January 26
"Blood Components—Use—The Control Blood Bank" by Roland A. Yankee, MD, Centralized Blood Bank of R.I.

February 2
"Cardiac Imaging" by Thomas Hunt, MD, Department of Radiology and Nuclear Medicine, KCMH

February 9
"Selecting an Antibiotic—Different Strokes for Different Folks" by David Lowe, MD
Departments of Internal Medicine and Infectious Diseases, KCMH and RWGH

February 16
"Diabetes Mellitus." Lecturer to be announced.

March 2
"Intensive Care of the Newborn" by William Oh, MD, Department of Pediatrics, WIH; Professor of Pediatrics, Brown University

March 9
"Why Look at the Fundus?" by T. Coghlin, MD, Department of Ophthalmology, KCMH

March 16
"Ccesarian Section, Indications Today and Fetal Monitoring" by L. Brown, MD, Chief, and S. Davies, MD, Prev. Chief, Department of Ob/Gyn, KCMH

March 24
"Cystadenoma of the Pancreas—Ten Years after Diagnosis" by R. Corrente, MD, Chief of Surgery, Department of Surgery, KCMH

March 30
"As it Happened Series," panel discussion

April 6
"Ultrasound at KCMH" by S. Burns and G. Newstead, MD, Department of Radiology, KCMH

April 27
"Systemic Vasculitides" by O. Gilman, MD, Department of Internal Medicine, KCMH

May 4
"Epidemiology in R.I." by G. Faich, MD, MPH, RISH; Chief of Epidemiology, Clinical Assistant Professor of Medicine and Community Health, Brown University

May 11
"Colonoscope and other Invasive GI Procedures—Indications/value" by R. Coli, MD, Department of Gastroenterology, KCMH and Clinical Instructor in Medicine, Brown University; A. Hadamard, MD, Department of Gastroenterology, KCMH and Clinical Instructor in Medicine, Brown University; J. Walsh, MD, Department of Gastroenterology, KCMH

May 18
"Swanz-Ganz Cardiac Output in AMI" by R. Salseider, MD, Departments of Internal Medicine and Cardiology, KCMH, RWGH

May 25
"Principles of Clinical Decision-making—Influence on Quality and Cost." Conductor to be determined

June 1
"Pacemaker Use, Pacemaker Patients" by F. Balasco, MD, Departments of Internal Medicine and Cardiology, KCMH

June 8
"Dermatologic Manifestations of Systemic Disease" by L. Aaronson, MD, Departments of Internal Medicine and Dermatology, KCMH

June 15
"Leukemia Updates Recognition—Management, Expectations" by B. Rauth, MD, Departments of Internal Medicine, Hematology, KCMH

June 22
"The Jaundiced Patient—Appropriate Investigation and Management" by R. Coli, MD, Department of Internal Medicine and D. Reardon, MD, Department of Surgery, KCMH

June 29
"CPC—Surgery" by J. Hansagi, MD, Chief of Pathology, KCMH

Contact: Doctor Lamb, 737-7000 Ext. 304 Credit: 1 hour Category 1 per session

THE MIRIAM HOSPITAL Medical Grand Rounds Schedule. All sessions will be held in Sopkin Auditorium, Thursdays at 11:30 a.m. with the exception of *Wednesday*, January 17 and Thursday, February 8, both at 12 noon. Schedule is as follows:

January 11
"Hyporenisemic-Hypoaldosteronism" by Hugh Carroll, MD, Professor of Medicine, State University of New York, Downstate Medical Center

January 17 (Wednesday, 12 noon)
"Diagnosis and Thrombolytic Therapy of Pulmonary Embolism" by Arthur A. Sasahara, MD, Chief, Medical Service, VA Administration Hospital of West Roxbury, MA, and Professor of Medicine, Harvard Medical School

January 25
"Approaches to the Study of Human Tumor Antigens by Monoclonal Antibodies produced by Culture" by Hilary Koprowski, MD, Director of Wistar Institute, Wistar Professor of Experimental Medicine, University of Pennsylvania College of Medicine

February 8 (12 noon)
"Clinical Trials—Lung Cancer" by Leo Stolbach, MD, Chief of Medicine, Pondville Hospital, Walpole, MA

February 22
Topic to be announced. Lecturer is Edward Holmes, MD, Department of Rheumatology, Duke University School of Medicine, Durham, NC

March 8
Topic to be announced. Lecturer is Lionel Mailloux, MD, Department of Nephrology, Cornell University Medical College; Department of Nephrology, North Shore University Hospital

March 22
Topic to be announced. Lecturer is Richard Levere, MD, Chairman, Department of Medicine, New York Medical College

April 26
"Glucagon—Is it Diabetagenic?" by Lillian Recant, MD, Georgetown University, Department of Endocrinology

June 14
Topic to be announced. Lecturer is Ralph Snyderman, MD, Chairman, Department of Rheumatic and Genetic Diseases, Duke University School of Medicine

Contact: Doctor Lichtman, 274-3700, Ext. 447 Credit: 1 hour Category 1 per lecture

NAVAL REGIONAL MEDICAL CENTER—BROWN UNIVERSITY Lecture Series. Sessions are held on the second Wednesday of each month from 3:00 to 5:00 p.m. Schedule is as follows:

January 10
"Recent Advances in Endocrinology" by Milton W. Hamolsky, MD, Professor of Medicine, Brown University

February 14
"Metabolic Acidosis" by Serafino Garella, MD, Associate Professor of Medicine, Brown University

March 14
"Cardiac Intensive Care Medicine" by Robert J. Capone, MD, Assistant Professor of Medicine, Brown University

Contact: Mrs. Sheila Leonard, 841-3352 Credit: 2 hours Category 1 per lecture

NEWPORT HOSPITAL Medical Education Lectures are held on Tuesdays from 7:30 to 9:30 p.m. in the A-V Room. The schedule is as follows:

January 23
"Indications for Temporary Pacemakers" and "Update on Coronary Bypass Surgery" by John S. Banas, Jr., MD, Director, Cardiovascular Laboratory, Tufts New England Medical Center Hospital; Associate Professor of Medicine, Tufts University School of Medicine

March 6
"Current Status and Complications of Open Heart and Coronary Artery Surgery" by Philip D. Allmendinger, MD, Member, Open Heart Cardiovascular Surgery Team, Hartford Hospital, Hartford, CT.; former Denton Cooley Open Heart Surgery Team; Clinical Associate Professor of Surgery, University of Connecticut Medical School

April 28
"Clinical use of Beta Block Agents" and "Clinical Hemodynamics in Surgical Patients with Heart Disease" by Sidney Alexander, MD, Head, Cardiovascular Section, Lahey Clinic. Boston, MA: Associate Professor of Medicine, Harvard Medical School

Contact: Elizabeth Cranston, 846-6400, Ext. 445 Credit: 2 hours Category 1 per lecture

RHODE ISLAND HOSPITAL

Bosic Science Lecture Series presented by the Deportment of Orthopoedic Surgery ond Fractures with the cooperotion af the Department of Pothology. Sessions ore held on Wednesdoys ot 1:00 p.m. in the 7th flaar conference roam, APC Building. Schedule is os follows:

January 10
"Monagement of Chronic Arthropothies" by Joseph Lombordazzi, Jr., MD, Clinical Assistant Professor of Medicine, Brown University; Medicol Stoff, RIH

January 17
"Vosculor Problems of the Lower Extremity" by Worren Froncis, MD, Surgicol Stoff, RIH

January 24
"Joint Motion ond Lubricotian" by Rosoria Tomoselli, MD, Orthopoedic Staff, RIH

January 31
"Orthopoedic Neurology" by Michoel Faello, MD, Deportment af Neuralogy, Kent County Hospitol

February 7
"Electromyagraphy" by Henri L. Poche, MD, Deportment of Rehobilitotion Medicine, RIH

February 14
"Locol ond Nerve Black Anesthesio in Orthopaedics" by Lowrence Calosonto, MD, Deportment of Anesthesio, RIH

February 28
"Genetic Disorders" by Siegfried Pueschel, MD, Associote Professor of Pediotrics, Brown University; Director Child Development Center, RIH

March 7
"Hond Surgery" by Stephen J. Komionek, MD, Clinicol Instructor af Medicine, Brown University; Orthopoedic Stoff, RIH

March 14
"Septic Shock" by George H. A. Clowes, Jr., MD, Lecturer in Surgery, Brown University; Director, Surgicol Reseorch, RIH

March 21
"Rodiatheropy of Malignont Soft Tissue and Bone Tumors" by Bonice Webber, MD, Associote Professor of Rodiotion Medicine, Brown University; Rodiotheropy Deportment Stoff, RIH

March 28
"Endocrine Aspects of Metabolic Diseose" by Milton W. Homolsky, MD, Professor of Medicine, Brown University; Physicion-in-Chief, RIH

Contoct: Ms. Celio Almonte, 277-5015 Credit: 1 hour Cotegory 1 per lecture

Clinicol Cordiology Conference under the direction of Albert Most, MD, Physician-in-Charge, Division of Cordiology. Sessions ore held on the first ond third Fridoy of the month from 12:00 noon to 1:00 p.m. in Room 155, APC Building, Rhode Islond Hospital. Schedule is os follows:

January 5
Cose discussian by Henry Gewirtz, MD

January 19
Cose discussion by Dovid O. Willioms, MD

February 2
Case discussion by Albert S. Most, MD

February 16
Cose discussian by Robert J. Copone, MD

March 2
"What o Morothoner con teoch o Cordiologist" by Poul Thompson, MD

March 23
Case discussion by Henry Gewirtz, MD

April 6
Case discussion by Raymon Riley, MD

April 20
"A Review and Update on ASH" by Richard Shulman, MD

May 4
Case discussion by David O. Williams, MD

May 18
Case discussion by Robert J. Capone, MD

June 1
"Lipids for the Cardiologist" by Peter Herbert, MD

June 16
Case discussion by C. Georas, MD and Albert S. Most, MD

Contact: Doctor Most, 277-5891 Credit: 1 hour Category 1 per session

Pediatric Grand Rounds sponsored by the Department of Pediatrics, Rhode Island Hospital. Sessions are held on Fridays from 10:30 a.m. to 12:00 noon, in George Auditorium, Rhode Island Hospital. Schedule is as follows:

January 19
"Hemophilia" by Peter H. Levine, MD, Professor of Medicine, University of Massachusetts Medical School; Chief of Medicine, Memorial Hospital, Worcester, MA

February 9
"The Epidemiology and Natural History of Otitis Media, by Jerry Klein, MD, Professor of Pediatrics, Boston University School of Medicine; Associate Director, Department of Pediatrics, Boston City Hospital

February 23
"Chronic Granulomatous Disease" by Paul G. Quie, MD, Professor of Pediatrics and Microbiology, University of Minnesota Medical School; American Legion Heart Research Professor.

March 23
"Pseudo-seizures and other Variants" by Michael Bresnan, MD, Assistant Professor of Neurology, Children's Hospital Medical Center, Boston, MA and Harvard Medical School; Associate in Neurology, Children's Hospital

April 20
"Genetic Diseases Among North African Jews" by Shimon Moses, MD, Professor and Chairman, Department of Pediatrics, Faculty of Health Sciences, David Ben Gurion University of the Nagev

April 27
"Planning the Care of Children with the Mucopaly Sarcharidoses" by Allen C. Crocker, MD, Director, Developmental Evaluation Clinic, Children's Hospital Medical Center, Boston, MA; Associate Professor of Pediatrics, Harvard Medical School

May 18
"The Role of Mycoplasmas as Causes of Human Disease" by Floyd W. Denny, MD, Professor and Chairman, Department of Pediatrics, University of North Carolina at Chapel Hill

May 25
"Febrile Seizures" by Arnold Gold, MD, Professor of Clinical Neurology; Professor of Clinical Pediatrics; Acting Director, Division of Pediatric Neurology, College of Physicians and Surgeons of Columbia University

Contact: Doctor Forman, 277-5171 Credit: 1½ hours Category 1 each session

ROGER WILLIAMS GENERAL HOSPITAL

Special Rheumatology Conference presented by Division of Rheumatology, Stephen R. Kaplan, MD, Director. Sessions will be held in the Greene Lounge at 1:30 p.m. Schedule is as follows:

Wednesday, January 24
"Gold Dermatitis" by Joseph Alper, MD, Assistant Professor of Medicine, Brown University

Wednesday, February 7
"Immunafluarescence Techniques" by Hendrik Bagaars, MD, Assistant Prafessor af Pathology and Labaratary Medicine, Brown University

Wednesday, March 7
"Cellular Hypersensitivity" by Glaria Heppner, PhD, Assaciate Prafessor af Pathalagy and Labaratary Medicine, Brawn University

Wednesday, March 21
"Arthrapathies af Endacrine Disease" by Raymand Partridge, MD, Tufts University

Medical Grand Rounds presented by the Department of Medicice. Sessians are held every *Tuesday* at 11:00 a.m. in Kay Auditorium. Schedule is as fallows:

January 2
"Immunalagy of Lung Cancer" by Allan D. Ericksan, MD, Assistant Prafessar of Medicine, Brawn University

January 23
"Meningitis" by Gearges Peter, MD, Assaciate Prafessor af Pediatrics, Brawn University

January 30
"Vasculitis" by Jahn Mills, MD, Massachusetts General Haspital

February 6 (may be postponed to 2/13)
"Metabalic Bane Disease" by Steven Krane, MD, Massachusetts General Haspital

March 6
"Lyme Arthritis" by Allan Steere, MD, Yale University

March 13
"Prastaglandins" by Rabert Zurier, MD, University af Cannecticut

April 24
Topic ta be decided. Lecturer will be Vincent Agnella, MD, Tufts University

May 1
Topic to be decided. Lecturer will be Gerald Mandel, MD, University af Virginia

Physician-in-Chief's Rounds Presented by the Department of Medicine. Sessians are held every Thursday at 11:00 a.m. in Kay Auditarium

Clincopathlogic Conference presented by the Department of Pathology, Israel Diamand, MD, Chairman. Sessions are held every third Thursday af the month at 11:00 a.m. in Kay Auditarium

Clinical Pharmacology Conference presented by the Department af Medicine, Divisian af Clinical Pharmacology, David C. Lewis, Head. Sessians are held the third Thursday af each manth at 12:30 p.m. in the Greene Lounge

Contact: Mrs. Caral Halscher, 456-2350 Credit: 1 hour Categary 1 per sessian

Combined Pediatric Teaching Rounds presented by the Department af Pediatrics, Mary Arnald, MD, Chairman. Sessians are held manthly an *Fridays* fram January thraugh June fram 10:30 a.m. to 12:00 naan in Kay Auditarium

January 12
"When ta da IVPs in Children" by Rabert L. Lebowitz, MD, Assistant Prafessar, Department af Radialagy and Urolagy, Children's Haspital Center, Bastan, MA

February 16
"Drug Treatment af Apnea" by Lester F. Sayka, MD, Prafessar af Pharmacalagy and Pediatrics, University af Vermant

March 16
"Steraid Therapy and Epinephrine" by Mary L. Vaarhess, MD, Prafessor af Pediatrics, State University af New Yark

April 13
"The Rale af Vitamin E in Infant Nutritian" by Frank A. Oski, MD, Prafessor and Chairman, Department af Pediatrics, State University Haspital, Upstate Medical Center, Syracuse, NY

May 11
"Nonepileptiform Paroxysmal Disorders of Childhood" by Abe M. Chutorian, MD, Professor of Clinical Neurology and Pediatrics, Columbia University College of Physicians and Surgeons

June 15
"Prenatal Diagnosis" by Kurt Hirschhorn, MD, Mount Sinai School of Medicine

Contact: Mrs. Carol Holscher, 456-2350 Credit: 1½ hours Category 1 per session

SOUTH COUNTY HOSPITAL Tufts University School of Medicine Lecture Series. Sessions are held on the 1st Friday of alternating months from 10:00 a.m. to 12:00 noon in the Borda Wing Classroom. Schedule is as follows:

January 5
"The Newer Antibiotics" by Richard Gleckman, MD, Associate Professor of Medicine

March 2
"Inhalation Therapy—Indications and Contra-indications" by L. Jack Faling, MD, Assistant Professor of Medicine

May 4
"Diabetes Mellitus—Current Concepts" by Marvin Mitchell, MD, Associate Professor of Medicine

July 6
"Uncommon Causes of Cirrhosis" by Marshall Kaplan, MD, Professor of Medicine

Contact: Doctor Kurtis, 783-3361 Credit: 2 hours Category 1 per lecture

ST. ANNE'S HOSPITAL, Fall River, Massachusetts. Educational meetings are held on Wednesdays monthly in Clemence Hall, 243 Forest Street at 8:15 a.m. The schedule is as follows:

January 17
"What's New in Antibiotics" by Edward L. Quinn, MD, Chief of Infectious Disease, Henry Ford Hospital, Detroit, Michigan

February 21
"The Differential Diagnosis and Treatment of Rheumatoid Arthritis and Osteoarthritis" by John J. Calabro, MD, Worcester City Hospital, Worcester, Massachusetts

March 21
"Septic Shock" by Jack Baker, Chief, Infectious Disease, Bridgeport Hospital, Bridgeport, Connecticut

*April**
"Pulmonary Allergies and Asthma"

*May**
"Hypertension"

*June**
"Anaerobic Infection"

*Dates and speakers to be announced

Contact: Mrs. Eileen Pelletier, 1-617-674-5741, Ext. 258 Credit: 2 hours Category 1 per lecture

ST. JOSEPH'S HOSPITAL Department of Family Practice presents a lecture series on the first Tuesday of every month. at 9 a.m. in the Stang Classroom of the Our Lady of Providence Unit. Schedule is as follows:

January 2
"Evaluation of Electrocardiograms" by Bharat Vibhakar, MD

February 6
"Chemotherapy and Immunotherapy in Oncology" by John DiBenedetto, MD

March 6
"Profile Patterns, Indications and Interpretations" by Salvatore Allegra, MD

April 3
"Ophthalmology in Family Practice" by Joseph Migliori, MD

May 1
"Current Applications and Interpretations of the Holter Monitor" by Irving T. Gilson, MD, Clinical Instructor in Medicine, Brown University

June 5
"Updated Present-day Studies in Thyroid Diseases" by John Roque, MD

Contact: Doctor Cardi, 942-6610 Credit: 1 hour Category 1 per session
1 hour AAFP

UNION-TRUESDALE HOSPITAL, Fall River, Massachusetts. Regularly scheduled conferences as follows:

1st Thursday monthly, Renal Conferences, Paul W. C. Tung, MD, Discussor

2nd Thursday monthly, Chest Conferences, William Sheehan, MD, Discussor

3rd Thursday monthly, Cardiology Conferences, Jose Felix, MD; Norman Hill, MD; and Barbara Lenehan, MD, Discussors

All are held in the Medical Library, Truesdale site at 8:00 a.m.

Every Saturday, Conference in Medical Library, Truesdale site at 8:00 a.m. presenting specific topic and in-depth discussion

Contact: Mrs. Ferguson, 617-674-8411, Ext. 255 Credit: 1 hour Category 1 each lecture

V. A. HOSPITAL, PROVIDENCE, RHODE ISLAND
Neurosciences Seminar. Sessions are held Wednesdays from 3:30 p.m. to 5:00 p.m., in the 5th Floor Auditorium, Room 2. Schedule is as follows:

January 10
"The Hyperkinetic Child as a Young Adult" by Doctor Eric Denhoff

January 17
"CPC: Premature Aging in Mentally Retarded by Doctor Srecko Pogacar

January 24
"Korsakoff's Amnesia: A Neuroadrenergic Hypothesis" by Doctor William McEntee and Mr. Robert Mair

January 31
"Neurochemical Changes in Post Mortem Brains of Patients with Huntington's Chorea and Schizophrenia" by Doctor Edward Bird

February 7
"Commission for the Control of Huntington's Disease and its Consequences: Hopes and Realities" by Doctor Stanley M. Aronson

February 14
"Brain Cutting" by Doctor Mary Ambler

February 21
"A Wholistic Model of Substance Abuse Treatment" by Doctor Ronald Paolino

February 28
"Assessment of Rapists" by Doctor David Barlow

March 7
"The Organization of Rolandic Cortex in Man and Other Mammals" by Doctor Ford Ebner

March 14
"Autonomous Illness in Affective Disorders" by Doctor George Winokur

March 21
"Effects of Maternal Alcohol Consumption on the Human Fetus" by Doctor Henry Rosett

March 28
"Serum Proclactin and Clinical State During Neuroleptic Treatment and Withdrawal" by Doctor Thomas Laughren

April 4
"Problem Oriented Handbook of Clinical Neurology" by Doctor Pasquale Finelli

Contact: Debbie Durning, 521-1700, Ext. 383 Credit: 1½ hours Category 1 per session

Surgical Grand Rounds. Sessions are held on Fridays at 7:30 a.m. in Room 648. Schedule for January follows:

January 5
"Current Concepts in Management of Peritonitis" by William McCabe, MD, Professor of Medicine and Microbiology, Boston University School of Medicine

January 12
"Arterial Trauma" by Joseph M. Van De Water, MD, Chief of Surgery, Veterans Administration Medical Center; Professor of Surgery, Brown University Program in Medicine

January 19
"Vascular Compliance in Diabetes" by Steven Falchuk, BA, Brown University Program in Medicine

January 26
"Surgical Morbidity and Mortality" by Joseph M. Van De Water, MD, Chief of Surgery, Veterans Administration Medical Center and John Abbott, MD, Chief, Anatomic Pathology, Veterans Administration Medical Center

Feb., Mar., Apr., May, June—Topic and speaker to be announced

NOTE: Surgical Journal Club—Every Saturday—8 a.m.—Room 648

Contact: Rita Lavalle, 521-1700, Ext. 376 Credit: 1 hour Category 1 per session

Regularly scheduled rounds and conferences as follows:

Every Tuesday from 9 to 10 a.m. in Room 648, **Chief's Rounds—Medical Service**

Every Wednesday at 1 p.m. in Room 648, **Chest Conference**

First and fourth Mondays at 1 p.m. in Room 648, **Clinical Neurology**

Second Monday at 1 p.m. in Classroom 1 and third Friday at 10:30 a.m. in Room 648, **Clinical Neuropathology** (Brain Cutting)

Third Mondays at 1 p.m. in Room 648, **Endocrinology and Metabolism**

Tuesdays from 1 to 2 p.m. and Thursdays from 12:00 noon to 2 p.m. in Room 648, **Nephrology Seminar**

Every Monday from 2:30 to 3:30 p.m. in Room 648, **Tumor Board**

Every Friday from 2:30 to 3:30 p.m. in Room 648, **Vascular Conference—Surgical Service**

Contact: Doctor Daum, 521-1700, Ext. 273 Credit: One Category 1 credit per hour

III. HOSPITAL SPECIAL EVENTS

BUTLER HOSPITAL

Thursday, March 15, at 10:30 a.m. in the Ruggles Room

The Brown University Acodemic Grond Rounds in Psychiotry series presents o Case Conference: "Bipolor Depression" by George Winokur, MD, Heod of Deportment of Psychiotry, University of Iowa Hospital

Contoct: Doctor Rosen, 456-3856 Credit: 1½ hours Cotegory 1

CRANSTON GENERAL HOSPITAL

Thursday, Januory 11,at 8:30 a.m., in the Auditorium

Lecture (topic to be decided) by Arnold Melnick, DO, Consultont in Pediotrics, Porkview Hospitol, Philodelphio, PA

Contact: Doctor Alexander, 461-5400 Credit: To be orronged

GENERAL HOSPITAL, RHODE ISLAND MEDICAL CENTER

Monday, Januory 8, 9:00 a.m., in the LP Conference Room

"Right Hemispheric Involvement ond Emotionol Expressions" by S. Pogacar, MD, Clinical Assistont Professor of Pathology and Loborotory Medicine, Brown University

Contoct: Doctor Hossid, 464-3493 Credit: 1 hour Category 1

Monday, Januory 15, at 9:00 a.m., in the LP Conference Room

"Drugs Used in Virol Infections" by Somuel Hossid, MD, DME, Generol Hospitol, Rhode Islond Medicol Center

Contact: Doctor Hassid, 464-3493 Credit: 1 hour Cotegory 1

Tuesday, Januory 23, at 10:30 a.m., in the LP Conference Room

"Latest Trends in Chemotherapy" by Mary Colbert, MD, Physician-in-Chorge, Oncology Unit, Generol Hospitol, Rhode Islond Medicol Center, ond Oncology Deportment, Rhode Island Hospitol

Contoct: Doctor Hossid, 464-3493 Credit: 1 hour Cotegory 1

Friday, April 27, 8:30 a.m. to 12:15 p.m., in Mathias Lab. Classroom

Symposium, "Gerontology" moderoted by Samuel Hossid, MD, Clinicol Director ond DME, Generol Hospitol, Rhode Islond Medicol Center

"Gerontology ond the New Hospitol" by Johonnes Virks, MD, Chief of Medicol Services, General Hospitol, Clinicol Instructor in Community Heolth ond Medicine, Brown University

"Systemic Chonges in the Aged" by Peter Himmel, MD, Medicol Coordinotor, Rehobilitotion Unit, Generol Hospitol

"Orgonic Broin Syndrome and Drugs Used to Control its Monifestations" by S. Pogocor, MD, Clinicol Director, Neuropothology, General Hospital, Clinical Assistont Professor of Pothology ond Loboratory Medicine, Brown University

"Skin ond Immunity Chonges in the Aged," speoker to be arronged

Contoct: Doctor Hossid, 464-3493 Credit: 4 hours Cotegory 1

THE MIRIAM HOSPITAL

Saturday and Sunday, June 2 and 3, in the Hospital Surgical Laboratory and Conference Room, sponsored by The Miriam Hospital and the R.I. Ophthalmological Society

Two mornings of lectures ore plonned covering vorious ospects of vitreous surgery by leoders in the field. Both onterior segment ond posterior segment surgery will be stressed. Bosic concepts of the surgery, including complicotions and techniques will be discussed. An afternoon workshop will be limited for use of the vitreous surgery instruments. Pleose coll for further informotion.

Contoct: Doctor Geltzer, 421-2277 or
Irene Owens, 863-3337 Credit: 16 hours Cotegory 1

RHODE ISLAND HOSPITAL

Wednesday, January 10, 1:00 p.m. to 5:00 p.m., in George Auditorium

"Topics in Hematology" introduced by Maurice M. Albala, MD, Director, Division of Clinical Hematology, Rhode Island Hospital, Associate Professor of Medicine, Brown University

"Hemoglobinopathies: Diagnosis and Management" by Bernard J. Forget, MD, Professor of Medicine, Chief of Hematology, Yale University Medical School

"Sideroblastic Anemias: Diagnosis and Management" by Lewis Weintraub, MD, Professor of Medicine, Chief of Hematology, Boston University

"Megaloblastic Anemias" by Manfred Steiner, MD, Director, Division of Hematologic Research, Pawtucket Memorial Hospital, Associate Professor of Medicine, Brown University

"Aplastic Anemia: New Concepts in Therapy" by Henry Kaplan, MD, Department of Oncology/Hematology, Roger Williams General Hospital, Assistant Professor of Medicine, Brown University

Contact: Doctor Albala, 277-5395 Credit: 3½ hours Category 1

The following are **Combined Medical-Pediatric-Surgical Conferences** sponsored by the Rhode Island Hospital House Officers' Association:

Saturday, January 6, 10:00 a.m., in George Auditorium

Topic to be announced. Lecturer will be Donald Higby, MD, Associate Chief of Medicine, Roswell Park Memorial Institute, Buffalo, New York

Saturday, January 13, 10:00 a.m., in George Auditorium

"Alternative Surgical Procedures for Carcinoma of The Rectum" by Stanley M. Goldberg, MD, Clinical Professor of Surgery, University of Minnesota Medical School

Friday, January 19, 10:30 a.m. to 12:00 noon, in George Auditorium

"Hemophilia" by Peter Levine, MD, Professor of Medicine, University of Massachusetts Medical School

Saturday, January 20, 10:00 a.m., in George Auditorium

"Patho Physiologic Approach to the Diagnosis and Treatment of Hyponotremia" by Ralph A. DeFronzo, MD, Associate Professor of Medicine, Yale University School of Medicine

Friday, January 26, 10:30 a.m. to 12:00 noon, in George Auditorium

Topic to be announced, by David H. Smith, MD, Professor and Chairman, Department of Pediatrics, University of Rochester School of Medicine and Dentistry

Friday, February 9, 10:30 a.m. to 12:00 noon, in George Auditorium

"The Epidemiology and Natural History of Otitis Media" by Jerry Klein, MD, Professor of Pediatrics, Boston University School of Medicine

Saturday, February 17, at 10:00 a.m., in George Auditorium

"Esophageal Manometry for Evaluation of Esophageal Disorders" by Joel D. Cooper, MD, FACS, FRCS, Associate Professor of Surgery, University of Toronto Faculty of Medicine

Saturday, March 3, at 10:00 a.m., in George Auditorium

Topic to be announced, by Karl Engleman, MD, Associate Professor of Medicine and Pharmacology, University of Pennsylvania School of Medicine

Saturday, March 10, at 10:00 a.m., in George Auditorium

"Some Aspects of the Prevention and Management of Large Bowel Cancer," by Jerome J. DeCosse, MD, Professor of Surgery, Cornell University Medical College

Saturday, April 14, at 10:00 a.m., in George Auditorium

"The Anatomy and Repair of Groin Hernia" by John Madden, MD, Professor of Clinical Surgery, New York Medical College

Saturday, April 28, at 10:00 a.m., in George Auditorium

Topic to be announced, by Samuel M. Wolpert, MD, Professor of Radiology, Tufts University School of Medicine

Wednesday, May 2, at 12:00 noon, in George Auditorium

"White Cell Function in Health and Disease" by Gerald Mandell, MD, Professor of Medicine, University of Virginia School of Medicine

Friday, May 18, 10:30 a.m. to 12:00 noon, in George Auditorium
"The Role of Mycoplasmas as Causes of Human Disease" by Floyd W. Denny, MD, Professor and Chairman, Department of Pediatrics, University of North Carolina at Chapel Hill School of Medicine

Saturday, May 19, at 10:00 a.m., in George Auditorium
Topic to be announced, by D. Emerick Szilagyi, MD, Clinical Professor of Surgery, University of Michigan Medical School

Friday, May 25, 10:30 a.m. to 12:00 noon, in George Auditorium
"Febrile Seizures" by Arnold Gold, MD, Professor of Clinical Neurology, Professor of Clinical Pediatrics, Columbia-Presbyterian Medical Center

Contact: Ms. Celia Almonte, 277-5015 Credit: 1 hour Category 1 per hour of lecture

ST JOSEPH'S HOSPITAL

Friday, March 23 from 7:00 to 10:00 p.m. (tentative) and Saturday, March 24, from 8:00 a.m. to 5:00 p.m.
Advanced Cardiac Life Support Program sponsored by the Rhode Island Affiliate of the American Heart Association and the Medical Staff Association, St. Joseph's Hospital under the direction of Irving T. Gilson, MD, Director of Medicine and Chairman of the Advanced Life Support Committee, St. Joseph's Hospital; Clinical Instructor of Medicine, Brown University. The program will be held at the Fatima Unit of St. Joseph's Hospital in Classrooms 1 and 2, lower level, Marian Hall. The fee is $100.00 and enrollment is limited. Priority will be given to members of the medical staff of St. Joseph's Hospital; other physicians as space allows. Pre-course material will be sent to each registrant in advance of program. Early enrollment is, therefore, essential.

Contact: Mary C. McHugh, RN, 456-3065 Credit: 12 hours Category 1

Thursday, March 29, at 11:30 a.m., in the Stang Classroom of the Our Lady of Providence Unit of St. Joseph's Hospital
"Polymyalgia Rheumatica" by Gene G. Hunder, MD, Chief of Rheumatology, Mayo Clinic, Rochester, Minnesota; a Grand Rounds Program sponsored by St. Joseph's Hospital and the Arthritis Foundation of Rhode Island

Contact: Doctor Hunt, 456-3066 (St. Joseph's) Credit: 1 hour Category 1
Doctor Horowitz, 351-2280 (RI Arthritis Foundation)

Pediatric Department Children and Youth Series through May, 1979
All sessions will be held in the Stang Room, Tuesdays at 8:00 p.m. (with one exception noted below). Schedule is as follows:

Tuesday, January 9
"Congenital and Traumatic Reconstructive Surgery: Overview in Children and Youth—Congenital (Part I)" by Baumann Harvey, MD

Tuesday, February 13
"Congenital and Traumatic Reconstructive Surgery: Overview in Children and Youth—Traumatic (Part II)" by Baumann Harvey, MD

Tuesday, March 13, at 7:30 p.m. (3 hours)
"Cardio-Pulmonary Respiratory (CPR): Basic Life Support Course" by Edward Hunt, PhD, and staff.

Credit: 3 hours Category 1

Tuesday, April 10
"Advances in Pediatric Gastroenterology" by Raymond Moffitt, MD, and Paul Roderick, MD

Tuesday, May 8
"Malabsorption Problems" by Raymond Moffitt, MD and Paul Roderick, MD

Contact: Doctor Mathieu, 521-3231 Credit: 1 hour Category 1 per lecture (one exception noted above)

WESTERLY HOSPITAL

Saturday, March 10, 9:30 a.m. to 3:30 p.m., at Westerly Yacht Club, Watch Hill Road

All-Day Symposium: "Administrative Aspects of Medical Care" by invited politicians at national, state, and local levels; and Lawrence L. Weed, MD, University of Vermont, Medical Center Hospital of Vermont. (Registration is at 9:00 a.m. Fee of $25 includes lunch and coffee break.)

Contact: Mrs. Natalie Lawton, 596-4961, Ext. 280 Credit: 4 hours Category 1

Saturday, April 7, 9:30 a.m. to 3:30 p.m., at Westerly Yacht Club, Watch Hill Road

All-Day Symposium: Topic will be Diabetes. Speakers will include William Oh, MD; Charles B. Cahn, MD; and others to be announced. (Registration is at 9:00 a.m. Fee of $25 includes lunch and coffee break.)

Contact: Mrs. Natalie Lawton, 596-4961, Ext. 280 Credit: 4 hours Category 1

WOONSOCKET HOSPITAL—JOHN E. FOGARTY MEMORIAL HOSPITAL joint lecture series

Monday, June 18, 12:00 noon to 1 p.m. (luncheon at 11:30 a.m.) in Christiansen Hall in Woonsocket Hospital

"Comman Arrhythmias, with and without M.I.'s" by Albert N. Brest, MD, Professor of Medicine, Jefferson Medical College, Philadelphia, Pennsylvania; Director, Division of Cardiology, Jefferson Medical College and Hospital; James C. Wilson, Professor of Medicine, Jefferson Medical College

Contact: Aurelia Granieri, 767-3211, Ext. 260 Credit: 1 hour Category 1

WOMEN AND INFANTS HOSPITAL OF RHODE ISLAND

Saturday, May 12 at 9:15 a.m., in the Hospital Auditorium

"Fetal Assessment and Monitoring Techniques Pre and Antepartum" by Leo J. Dunn, MD, Professor and Chairman, Department of Ob/Gyn, Medical College of Virginia

Contact: Beth Vetter, 274-1100, Ext. 324 Credit: 1 hour Category 1

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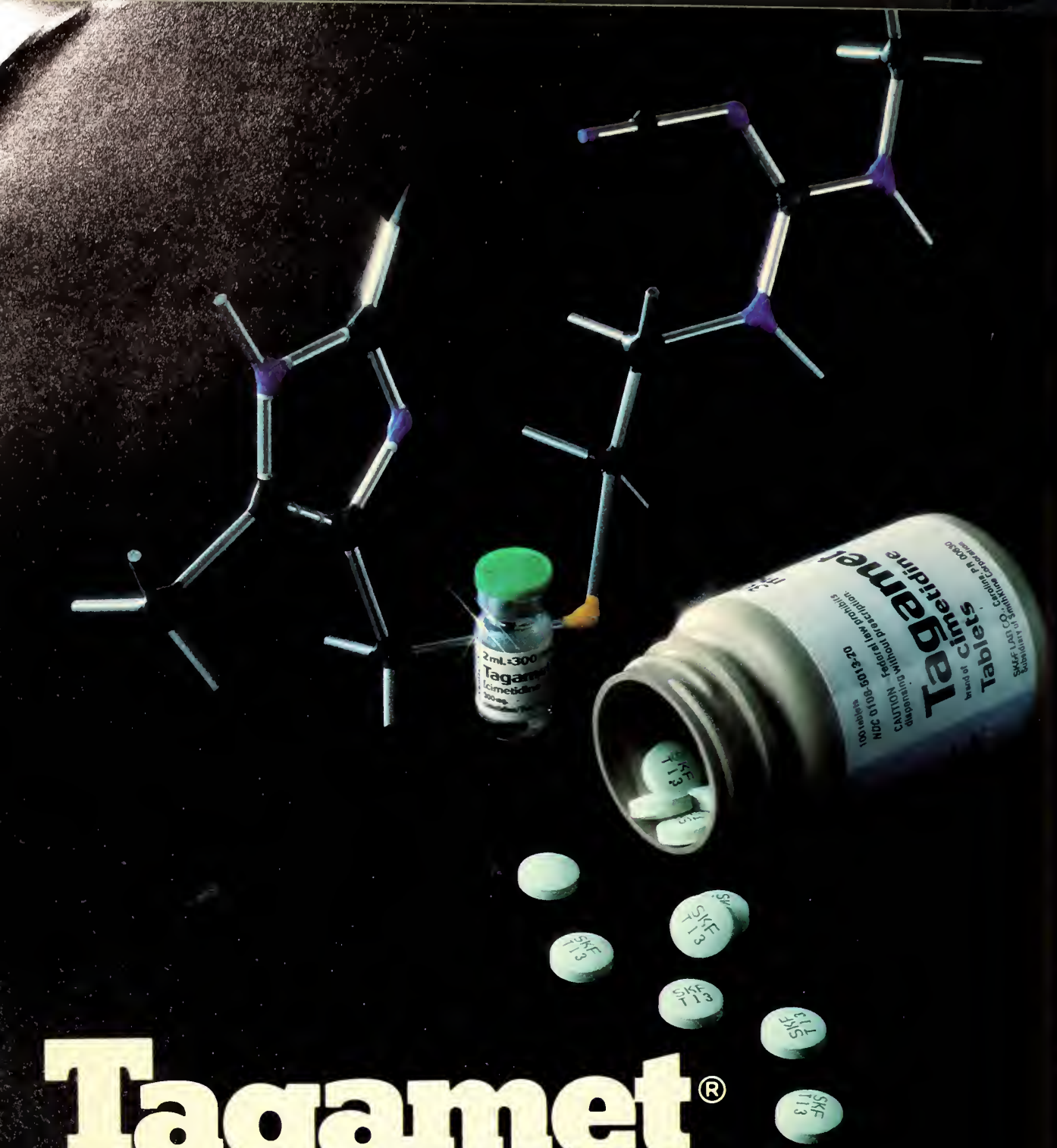

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Interface — Rhode Island Medical Society: The Society's Perspective

Our Goals Are Recruitment Of All Physicians As Members And A Maximum Of Activism

By Joseph E. Caruolo, MD

We are all aware of that state of mind among the American people which holds paradoxically that the physician may be a friend, but organized medicine is an enemy. Those who have a vested interest in change (no matter for good or for bad), having developed this paradox, now launch the campaign to discredit the individual physician.

Since assuming the presidency of the Rhode Island Medical Society in May of 1978, I have learned that this paradoxical attitude is not universal. I have met many responsible people who do not look upon the Rhode Island Medical Society as an enemy. They look to us as responsive to the health care needs of this state, come to us for help, and invariably receive it.

During my tenure I would among other goals 1) enroll as many physicians as possible, if not all, in the Rhode Island Medical Society and 2) convert as many members as possible, if not all, to activism at the interface between society at large and the Rhode Island Medical Society.

JOSEPH E. CARUOLO, MD, *President 1978-1979, Rhode Island Medical Society; Assistant Professor of Surgery, Brown University, Division of Biology and Medicine, Providence, Rhode Island*

To establish credibility in the drive to recruit new members I solicited opinions from many responsible and respected public leaders. All replies were favorable. None were critical. These replies are printed elsewhere in this issue.

Non-Members: Join Us

Because the Rhode Island Medical Society *is* credible and *is* the only organization available to all physicians for representation at all levels in dealings with and in services to all people, I earnestly encourage all non-member physicians to consider joining us.

The Rhode Island Medical Society staff and leadership work diligently to represent our thousand plus dues-paying members, and they do it well. But the Society would become a thousand times more effective if each member were to become a medical society activist.

Let me cite an example of activism by other elements of our society at large. In no way do I imply criticism of these groups; rather, I admire them.

I have attended the meetings of the Statewide Health Care Coordinating Council for over a year. As you know, the SHCC is planning the future of the delivery of all medical care. I have observed increasing numbers of consumers, health groups, and educational groups in attendance, as spectators (doing

their homework). But in over a year I have not seen a single physician in attendance.

Further to emphasize the need for activism and universal physician membership in the Rhode Island Medical Society, I would point out the many laws being proposed in our state legislature, as well as others, which would soon render the current system of medical care unrecognizable. Many such proposed laws are sound, but others cannot possibly improve the quality of medical care. The motivation of the lawmakers is not questioned, for I believe them to be sincere. Frequently, however, they do not seem to have had the advantage of exposure to competent medical judgment.

The staff and leadership of our Society can and will meet with members of the executive department of our state government and the legislative leadership. But the job of contacting the individual legislator must fall upon our individual member, working at the local level within the framework of the county medical society. To help in this area the Rhode Island Medical Society will distribute to its members this year a synopsis of all proposed legislation relating to medical care.

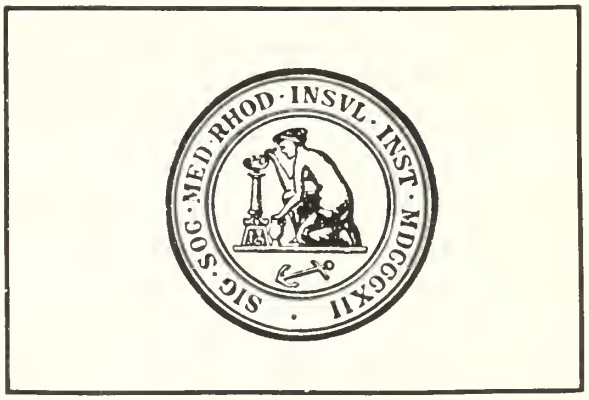
Our Professional Responsibility

As important as day-to-day problems may be, we would be remiss if we failed to point out the deep underlying causes of our obvious problems.

Beneath the obvious waves of legislation pounding against the shores of medical practice, there is an undertow which would obliterate the very essence of the degree of doctor of medicine and efface the very identity of the physician.

In the 1978 Winter issue (Volume 107, Number 1) of *Daedalus*, the journal of the American Academy of Arts and Sciences, the titles to two articles tell this story. They are "What Future for the Professional in American Society?" by Adam Yarmolinsky, and "Medicine and the Waning of Professional Sovereignty" by Paul Starr.*

All physicians, whether in private practice, or salaried by government, hospital, or academic institution, who take pride in and believe in themselves as doctors of medicine, would do well to read and ponder these articles. It would be beyond my comprehension that any physician could read them and fail to become an activist member of the Rhode Island Medical Society post haste.



"Organized medicine" (at the county, state, and national levels) is the only available forum in which all physicians can meet to create a consensus which can effectively be presented to society at large. Physicians cannot possibly have a significant voice in the planning and delivery of medical care except through the mechanism of their medical societies. There is no other way.

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Did You Know?

In 1857 the Rhode Island Medical Society appointed a committee "to memorialize the legislature of this State to so revise existing laws, or to enact such new laws, as may be adopted, to remedy the evils existing in the present mode of holding Coroners' Inquests."

The promotion of forensic medical reforms has long been a concern of organized medicine. In Rhode Island the society's influence was a prominent factor in the eventual institution many years later of the medical examiner system.

*A copy of *Daedalus*, Winter 1978 is available for reading at the Rhode Island Medical Society Library, or reprints of these articles will be mailed to you by writing Jim Clarkin, 106 Francis Street, Providence, RI 02903, or calling 331-3207.

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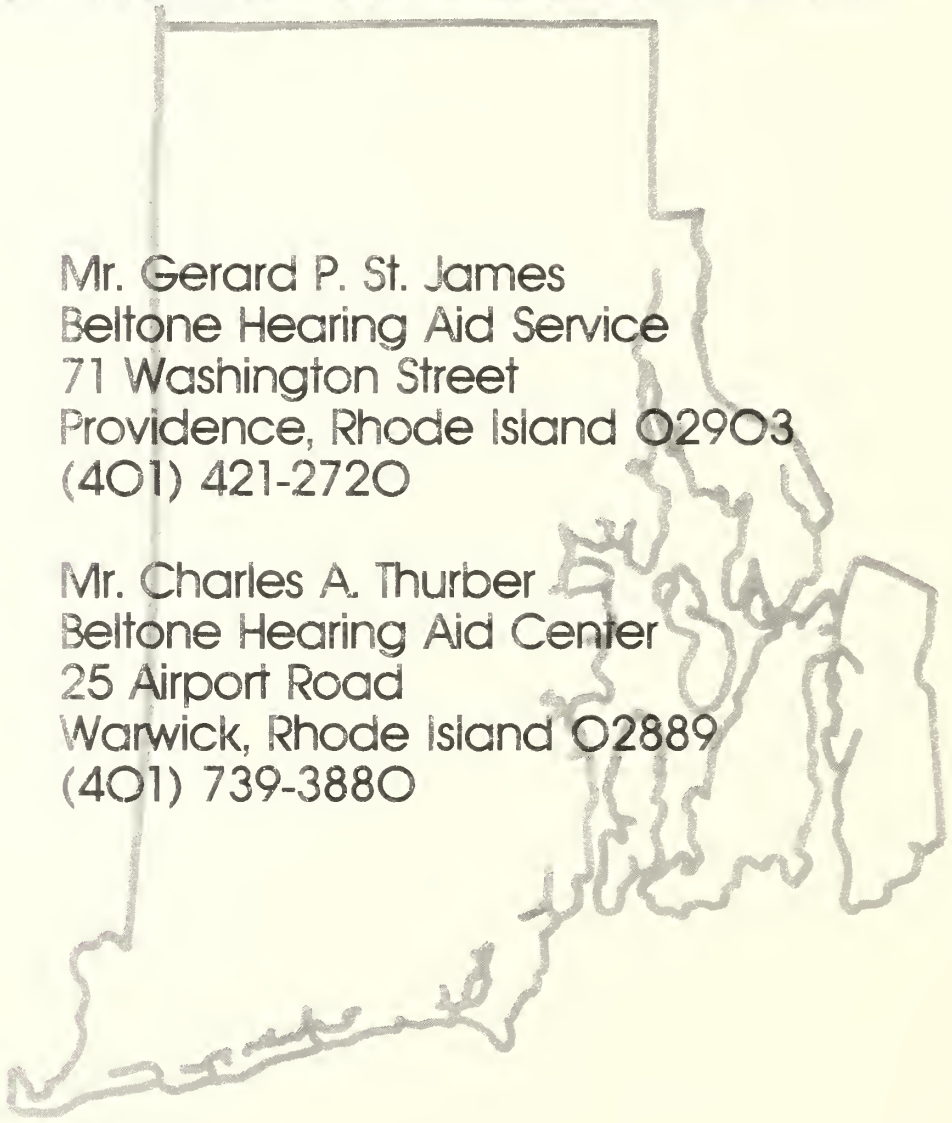

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The Medical Society and State Government

Continued Partnership Is Cornerstone Of Effort To Provide Better Health And Living For All Rhode Islanders

By Governor J. Joseph Garrahy

Throughout my sixteen years in state government it has been my belief that quality health care is the right of every citizen and that government has the responsibility to protect and guarantee that right. Rhode Islanders want the finest hospital and medical care that can be developed for them; we have the obligation to offer nothing less.

STATE OF
RHODE ISLAND

We have a proud record of protecting the health of its people, thanks in large measure to the dedicated and imaginative leadership of our own health professionals in partnership with government.

A decade ago Rhode Islanders often sought medical treatment outside our borders. Today, we proudly note that this situation has reversed itself, with people from other states and countries coming to our institutions for care, because many of our physicians hold national reputations for excellence. Our goal is to develop a comprehensive system of services made up of formally linked public and private agencies working together to meet the special needs of all citizens. We will work aggressively toward this goal and look forward to the concerned involvement and support of the Medical Society and its members.

J. JOSEPH GARRAHY, *Governor, State of Rhode Island and Providence Plantations*

Financial Accessibility of Good Health Care

It is also the shared responsibility of government and all health professionals to ensure that good health care is financially accessible to all citizens. Here, too, Rhode Island has made notable progress. We have implemented an innovative prospective reimbursement measure that has kept our state's hospital cost increases to well below the national average—a 9.8 per cent increase in fiscal year 1978 compared with a 15.6 per cent national experience. Our state was the first—and still one of a few—to initiate a catastrophic health insurance program in 1974. In 1976 we enacted a generic drugs act, and we had the first federally qualified HMO in the nation [Rhode Island Group Health Association (RIGHA)]. And, most recently we have strengthened our certificate of need legislation, again making it a national model.

All of those factors, while very significant by themselves have collectively brought us to the edge of having a "model" health care system in Rhode Island, unique in the nation. (Rhode Islanders want the finest hospital and medical

care that can be developed for them; we have the responsibility to offer nothing less.)

One of the most important aspects of developing a statewide system of excellence is proper planning and coordination. Toward this goal the two major objectives of Rhode Island's health policy are the controlled and rational development of our state's health care resources and facilities, and the education of our citizenry in sound health habits which will protect them in later years. Our physicians are contributing significantly in the development of necessary mechanisms to achieve these ends.

The valuable provider participation in the Statewide Health Coordinating Council (SHCC), State Health Systems Agency, the Professional Standards Review Organization, the Health Planning Council, and the Health Education Committee, among others, is evidence of our shared commitment to assuring the necessary services while being responsible to fiscal limitations. Another vital component is the development and maintenance of excellent state services for persons entrusted to our care. One of our top priorities during the past two years has been the development of a service for the disabled. In addition to operating numerous and various state facilities, state efforts have been directed at improving and expanding community-based alternatives. Efforts to create less restrictive community-based alternatives have been successful, and the number of persons serviced in our state inpatient facilities has steadily declined from an average of 3804 in fiscal year 1975 to an average of 2970 in the year just ended. In developing new community services, we have fostered cooperative relationships among a variety of public and private groups and agencies.

Mental Health Services

The recent establishment of emergency mental health services in the City of Providence provides an excellent example of how partnerships can bring about change. Through this service the Providence Mental Health Center began screening all potential admissions to the Rhode Island State Institute of Mental Health in July, 1977. As a result admissions to the IMH Providence Unit were reduced by 30 per cent during the six months that followed. The establishment of this program was largely the result of the development of an important partnership between the State Department of Mental Health, Retardation, and Hospitals (MHRH), the Providence Center, and Rhode Island Hospital, where the emergency services are provided at night, on weekends, and holidays.

An even more important development occurred on January 3, 1978, when the Providence Mental Health Center began operating an inpatient program at Butler Hospital under a $1,000,000 annual contract with the state.

Through this new service the Providence Center uses 24 beds at Butler in order to provide acute inpatient services for Providence residents.

As a result the number of beds in Providence Unit at the Institute of Mental Health was reduced, permitting one ward to be closed. All Providence residents needing short term acute psychiatric services are now either treated as outpatients at the mental health center or inpatients at Butler. The IMH Providence Unit has been able to concentrate on the rehabilitation of long-term patients from that community, and overall admissions to IMH have declined by 29 per cent.

Development of the Providence Mental Health Center program is a major step in our efforts to decentralize mental health services in Rhode Island and is an outstanding example of the kind of progress that can be made through an alliance of public and private agencies.

Ladd Center and Mental Retardation

Improving services for the residents of Ladd Center has also been an important priority during the last year, and in this effort one can find other examples of the kind of cooperation that can result in constructive change.

Between December 1977 and March 1978, 119 Rhode Island doctors gave physical examinations to 741 Ladd Center residents through the joint effort of MHRH and the Rhode Island Medical Society.

Doctor Frank W. Sullivan, Past President of the Society; Doctor John P. Grady; and Doctor Johannes Virks, Chief of Medical Services at the General Hospital, planned and coordinated the examination project. The Medical Society also volunteered central office support and organized the actual recruitment of many volunteers.

Rhode Island physicians have also worked

to help us identify candidates for key positions such as the new Medical Director of Ladd Center. Doctor Ellis Arnstein was recommended to MHRH Director, Doctor Joseph J. Bevilacqua, by a six-member search committee, chaired by Doctor David S. Greer, Associate Dean of Medicine, Brown University. Other search committee members were: Doctor Siegfried M. Pueschel, Director of the Rhode Island Hospital Child Development Center; Doctor Edwin M. Gold, Director of Ambulatory Services, Woman and Infants Hospital; Doctor Carl V. Granger, Professor of Community Health, Brown University; Doctor John R. Evrard, Associate Director of Community Reproductive Health Services, Women and Infants Hospital; Doctor Eric Denhoff, a pediatrician and Clinical Professor at Brown; and Doctor Donna M. Cone, MHRH Assistant Director for Retardation.

Doctor Arnstein brings to Rhode Island special skills and training in the medical needs of handicapped persons. He will work with hospitals and regional retardation programs to promote better medical services for all retarded citizens.

Our continuing relationship with the Brown University Medical program is another example of the benefit of a cooperative effort. With the full support of Doctor Stanley M. Aronson, Dean of Medical Affairs, the staff of the University has worked closely with the state to find ways in which the University can develop programs that have mutual benefit.

For instance, a thorough analysis of the functional needs of patients at the Institute of Mental Health was conducted jointly by the Department, the University, and the Boston-based Hebrew Rehabilitation Center for the Aged last year under a contract with the National Institute for Mental Health. The data later proved extremely useful in preparing an application for a unique Housing and Urban Development/Health, Education and Welfare program designed to speed development of community based alternatives for long-term hospital patients. This successful qualification for an innovative federal program underscores the importance of research and the importance of a strong relationship between the state, the academic community, and private health care institutions.

Similar cooperative research projects have led to improvements in rehabilitative services and facility design at the General Hospital and Zambarano Hospital.

Continued Cooperation Is Essential

While I am proud of Rhode Island's accomplishments in health care, and of my association with these programs, I realize, as you do, that much remains to be done. A continued cooperative partnership is the cornerstone of our efforts to provide better health and living for all Rhode Islanders. I congratulate each individual society member for the dedication to address these complex issues.

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The Rhode Island Department of Health — Relations with the Medical Society

The Historical Familial Relationship Should Be Preserved

By Joseph E. Cannon, MD, MPH

By happy coincidence it is in the centennial year of the Rhode Island Department of Health that I have this opportunity to comment on our relationships with the Rhode Island Medical Society. It was in 1878, through the vision and energy of Doctors Edwin Snow and Charles Fischer, RIMS members, that the General Assembly was persuaded to adopt the legislation which established the original six-man Board of Health. Of the original half-dozen, four were physicians and members of the Society, and Fischer was the first secretary. The Department of Health was thus, in truth, originally a project of the Medical Society.

Much could be said of the continuing joint efforts and professional cross-fertilization which followed with the passing of the years, of many common concerns and activities, and of occasional disagreements. There is a limited benefit, however, in exploring the remote past, and, in any case, the information is elsewhere available. I shall thus deal mainly with the more recent examples of our collaboration, especially during the period, known well to many still active, since we gained Department status in 1935.

At the outset I must emphasize that we are discussing the Medical Society itself. If we were to attempt to mention the activities of many individual physicians, acting in an unofficial capacity, a very long paper indeed would be the result. Instead we must be content with a few of the more striking examples of the joint concerns and activities of the Medical Society and the Department of Health.

While some common efforts have been in the regulatory field, with the aim of high quality health services, a much larger portion of our joint concerns have been in the field of disease control. Here we have progressed from our earlier and continuing interest in communicable disease into the new emphasis on chronic and "degenerative" disease, and we are at the same time reemphasizing health promotion over and above the treatment and care of the sick.

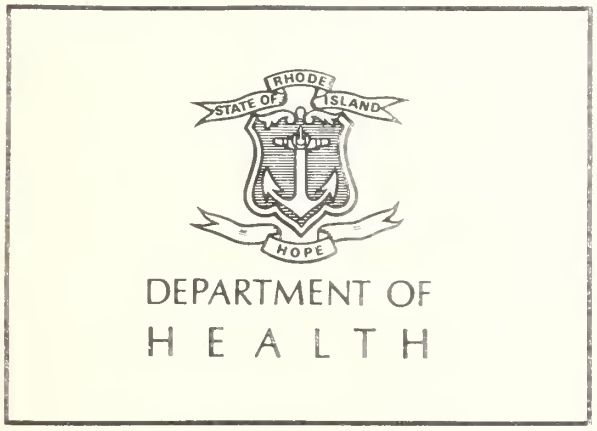
Public Health and the Rhode Island Medical Journal

Few things serve better to illustrate the closeness of our interrelationships than a review of the content of the Society's *Rhode Island Medical Journal*. Throughout the sixty-plus volumes that have appeared since 1917, articles have frequently called attention to important issues in Public Health, and at least half of the editorials have dealt in one way or another with public and community health problems.

In Volume One, for 1917, the first issue contained a most interesting report by Doctor Harry S. Bernstein, State Pathologist, detailing his initial experience in the operation of the State's first-in-the-nation public health laboratory. In a later issue of the same volume a sharply critical editorial commented on

JOSEPH E. CANNON, MD, MPH, *Director, The Rhode Island Department of Health*

dissensions within the Board of Health, and the need for openness in government operations--a clear forerunner of present preoccupation with "right to know". Other papers dealt with prevention of disease, with epidemiological observations on a local outbreak of Hookworm disease, on the evil results of over-the-counter medications for self-treatment of venereal disease, and many others. Editorials dealt with contemporary problems in workmens compensation, professional fees, out-patient care, health insurance, and many other problems which clearly were the later source of much of the legislation that determines the present health functions of the State and of the Department.



During the next six decades much similar content appears. Paper after paper discusses public health issues, and an astonishing predominance of the editorials do likewise, with continuing comment on the older problems that remain with us, and new material relating to modern issues ranging from nurse-practitioners to recombinant DNA. More importantly, the *Journal* has frequently done a distinguished public service by functioning as the channel of communication from the Department to the medical profession. Numerous accounts of organizational change, special programs, statutory developments, and "alerts" relating to special hazards have been published, and the names of Department Directors and their professional staffs have been no strangers in the index of authors. At the same time, and of equal importance, the *Journal* has provided the Society with a platform from which to issue criticism or support for the activities of the Department, and to call attention to unsolved problems needing public health action. A number of times there has been an expression of the concern of the Society for the specification of high qualifications for the Directorship of the Department, which has been reflected in legislation that has been adopted.

The *Journal* also lists each year's committees, and from the beginning committees on Public Health, Legislation, Industrial Health, Child Health, Tuberculosis, Air and Water Pollution, and many others, changing with the needs of the time, all speak for major interest in fields in which the Department has been active, and the names of the Director and his staff are frequently seen on the committee rosters.

Joint Activities

Examples of joint activities and joint programs are not difficult to find. In the last quarter of the 19th century, when the emphasis was on control of communicable conditions through quarantine, food and water sanitation, and the processing of sewage, these functions often gave rise to joint committees. The small early Board was not professionally staffed, and relied heavily on the Medical Society for technical advice and assistance.

In the present century, with the Department's growth in size and sophistication, the expansion of immunization and the appearance of specific antibacterial agents furnished new bases for mutually supportive activities and joint programs. Early free distribution of arsphenamine and other antiluetic agents set the precedent for later furnishing of sulfonamides and antibiotics to physicians for the treatment of syphilis, gonorrhea, rheumatic fever, and a variety of other conditions. The State Laboratory's bacteriological facilities contributed to furnishing the levels of diagnostic specificity demanded by the new agents.

It was in immunization, however, that our two agencies were brought into side-by-side working relationship. Examples are numerous, but a few words on the "End Polio" campaign, largely designed and operated by the Medical Society in cooperation with the Department, will have to suffice as a concrete illustration.

Initial enthusiasm for the killed vaccine of Jonas Salk in 1955 was promptly dampened by

the "Cutter Incident" and the proportion of the population receiving injections of all three types was not great. Interest was much increased locally by the 103-case outbreak in the summer of 1960, which appeared to have been partially aborted by the mass immunizations which followed. One case, reported in the following year, has been Rhode Island's last.

Experience with Albert Sabin's live attenuated vaccine which had been released in 1961 convinced the leadership of the Medical Society and the Health Department that this was now the method of choice. In 1963 the Medical Society in intimate collaboration with the Department designed and carried out a strikingly successful state-wide campaign, resulting in a very high level of immunity in the population.

The general decline of poliomyelitis (as this is written the Nation's first case for 1978 has been reported) has made it difficult for physician and public health worker alike to keep continued interest in the procedure of immunization, and special reminders to the public have been issued repeatedly. Current outbreaks in the Netherlands and Canada have served as a recent reminder.

Similar programs for measles and rubella, and the ill-fated "swine flu" program could be mentioned. All have called for the highest possible joint efforts on the part of the Society and the Department, and many other groups of health workers have been brought into the process.

Maternal and Child Health

Maternal and Child Health has furnished another logical focus for joint efforts. As early as 1919, under the leadership of Doctor Elizabeth M. Gardiner, and later Doctor Marion Gleason, our concerns and those of the Medical Society had given rise to programs for mothers and infants. These programs were immensely strengthened by the federal support which became available under Title 5 of the Social Security Act, when it was passed in 1935. To the activities of the Child Health Maintenance Committee, which had been established in 1933, were added, especially in the very early 1940's, the 9th federally supported state program for handicapped and cardiac children in the nation.

As time has gone on, a complex and growing cluster of programs for children and mothers has grown to the point that today the Division of Child Health administers our largest divisional budget. None of this could have taken place without the initiatives and support of the medical profession in general and the Medical Society in particular.

One could continue to cite further examples, but perhaps I have said enough to indicate the fact that there are few points at which the public and private sectors come so close to one another as in the area of health.

Common Concern

Of course we have not always agreed. Our differing mandates and reponsibilities have not infrequently placed us on opposing sides in relation to a particular issue. But our disagreements have always occurred against the background of a common concern for the health and longevity of the citizens of our state.

The Rhode Island Department of Health, having just completed its first century of service, looks forward to continued familial relations with its parent, the Rhode Island Medical Society, which is now two-thirds of the way through its second hundred years. One might hope that we can maintain the mutual status of "best friend and severest critic" which we have so valued in the past.

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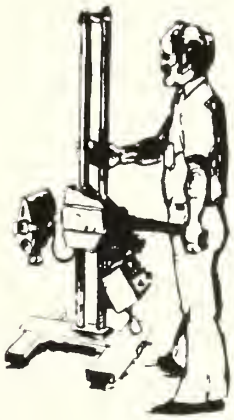

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The Rhode Island Community of Teacher-Physicians

Effectiveness of Brown Medical Program Depends Upon Integration With Rhode Island Practitioners And Health Care Facilities

By Stanley M. Aronson, MD

The year 1978 marks the fifth year that Brown University has operated an accredited medical school. Ours was the one hundred and thirteenth fully recognized college of medicine within the United States and the first *new* private medical school within the New England states since the latter portion of the nineteenth century. In a broader geographic context, ten new medical schools have been established in the Middle Atlantic and Northeastern states since World War II; but only two of these still in existence (Brown and Einstein) were initiated and funded from within the private sector. The remainder of these recently conceived medical schools, as well as virtually all new medical schools established since World War II, have been started and continued through state sources, often at awesome expense to the local taxpayers.

Development Years

During these past five years it was necessary for Brown University to fulfill many tasks in order to satisfy its needs in medical education. It was necessary to develop and expand the educational and governance substructure of the Medical Program. Much collective effort was exerted to establish the necessary criteria for admissions, the standards of acceptable academic performance, and the mechanisms for their administration. A curricular sequence had to be created which would be in compliance with professional licensure requirements for skilled physicians without sacrificing that educational climate needed to ensure that the Brown medical graduate would be a broadly educated humane individual. It was necessary, furthermore, to recruit a medical faculty, both salaried (now numbering about 186) and voluntary (now numbering about 450).

STANLEY M. ARONSON, MD, *Dean of Medicine, Brown University, Division of Biology and Medicine, Providence, Rhode Island*

In addition, it was essential that we develop large numbers of clinically-oriented elective exercises (now numbering in excess of 150) required to satisfy the diverse educational

needs of a typical medical school class and, concurrently, to secure a network of affiliated and associated institutions as the practical classrooms for these medical activities.

These diverse elements had to be brought together and be given coherence and continuity by creating a special system of governance designed to couple the tradition of higher education at Brown University with the urgencies unique to medicine. Our internal system of governance has been, and continues to be, under constant review and change. It has truly been a cooperative enterprise involving eight independent hospitals and Brown University sharing a common goal and responsibility in providing continuity to the process of producing physicians.

Most of these ingredients have been assembled at Brown during the past years, sometimes with ease and sometimes with difficulty. Some aspects are functioning effortlessly and some have not yet been weaned from the drawing board.

Community Accomplishment

The establishment of a medical school in Rhode Island, therefore, had not been accomplished without some travail and difficulty. It did not come to pass, certainly, because of an isolated effort incubated on College Hill; rather, it required the creative and sustained help of the community leadership, the University and its Corporation, the State administration and legislature, and, most important, the practicing physicians of Rhode Island. The alliance of office-based, hospital-based, and University-based physicians in behalf of medical education within our community is now an acknowledged reality; it may be worthwhile to review briefly the circumstances which have initiated and strengthened these bands as well as the extent to which formal medical education has been incorporated into the health care resources of our State.

In excess of one out of every three practicing physicians in the State of Rhode Island currently holds some faculty appointment at the Brown medical school. A substantial part of the bedside teaching of our medical students is supervised by the practicing internists, surgeons, pediatricians, psychiatrists, obstetricians, and family practice physicians, as well as a host of other types of practicing specialist physicians. The introductory courses in physical diagnosis are taught, in great measure, by physicians of this state who have volunteered their services to the medical school. Indeed, as one views the complex organization of this medical school, it is difficult to find an aspect or responsibility without the substantive participation by practicing physicians. The medical school Admissions Committee, clearly one of the most sensitive and responsible parts of the administrative apparatus, has always had a considerable number of practicing physicians on its roster. In fact, for the last six years, the Chairman of this Committee has always been a practicing private physician with offices in the Rhode Island community. Our Curriculum Committee, yet another body with critical influence in medical education, has always had members who are physicians in private practice and who materially influence the philosophy and character of our undergraduate medical education structure. The medical school Committee on Continuing Medical Education also contains members from the private medical sector of the community.

The extent to which medical education has been integrated into the existing health-care resources of Rhode Island is best illustrated by this extensive list of institutions, and their educational functions.

Educational Activities Conducted at Affiliated and Associated Institutions of Rhode Island and Neighboring Communities

A. *Affiliated Institutions* (for required clinical clerkships as well as elective exercises and research activities)
Butler Hospital, Providence, R.I.
Emma Pendleton Bradley Hospital, Riverside, R.I.
Memorial Hospital, Pawtucket, R.I.
Miriam Hospital, Providence, R.I.
Rhode Island Hospital, Providence, R.I.
Roger Williams General Hospital, Providence, R.I.
Veterans Administration Hospital, Davis Park, Providence, R.I.
Women and Infants Hospital of Rhode Island, Providence, R.I.

B. *Associated Institutions*
Blackstone Valley Community Action Program, Inc., Central Falls, R.I.

Clinical rotation for family practice resident physicians; clinical electives in primary care; continuing education for health professions staff.

Bristol County Medical Center, Bristol, R. I.
Preceptorial programs for third and fourth year medical students; clinical electives in primary care; continuing medical education for practicing physicians.

Day-Kimball Hospital, Putnam, Conn.
Elective clerkships in primary care and community health; continuing medical education programs for physicians in the Northeastern Connecticut area.

Department of Mental Health, Retardation and Hospitals, R.I. (Institute of Mental Health, Center General Hospital, Ladd School, Zambarano Hospital)
Elective clerkships in psychiatry, rehabilitation medicine and community health; joint programs in graduate medical education; programs in continuing medical education for physicians employed by the Department.

Jewish Home for the Aged, Providence, R.I.
Long-term care clerkships in community health; clinical electives in geriatrics.

Meeting Street School, East Providence, R.I.
Electives in pediatric neurology and developmental pediatrics.

Morton Hospital, Taunton, Mass.
Continuing medical education for practicing physicians.

Newport Hospital, Newport, R.I.
Elective clerkships in psychiatry and community mental health; continuing medical education programs for physicians in the Newport area.

Planned Parenthood Association of Rhode Island
Clinical electives in family planning.

Providence Mental Health Center, Inc., Providence, R.I.
Elective clerkships in psychiatry and community mental health; residency training in psychiatry and community mental health.

Rhode Island Group Health Association
Clerkship in community health; electives in primary care.

Rhode Island Health Services Research (SEARCH), Providence, R.I.
Community health clerkship; elective courses, clerkships, or research programs in health services research, data analysis, health planning, and health care organization.

The Learning Center, Providence, R. I.
Clinical and didactic exercises for medical students in the education and care of children with severe developmental and neurologic problems.

Union-Truesdale Hospital, Fall River, Mass.
Clinical electives in primary care, community health and diagnostic radiology; continuing medical education for practicing physicians.

It has been said that medical education at Brown has become part of the fabric of the University. Without denying the accuracy of this observation, it is safe to note further that the effectiveness of this educational enterprise is resolutely bound to its integration as well with the practicing physicians and health care institutions of our community.

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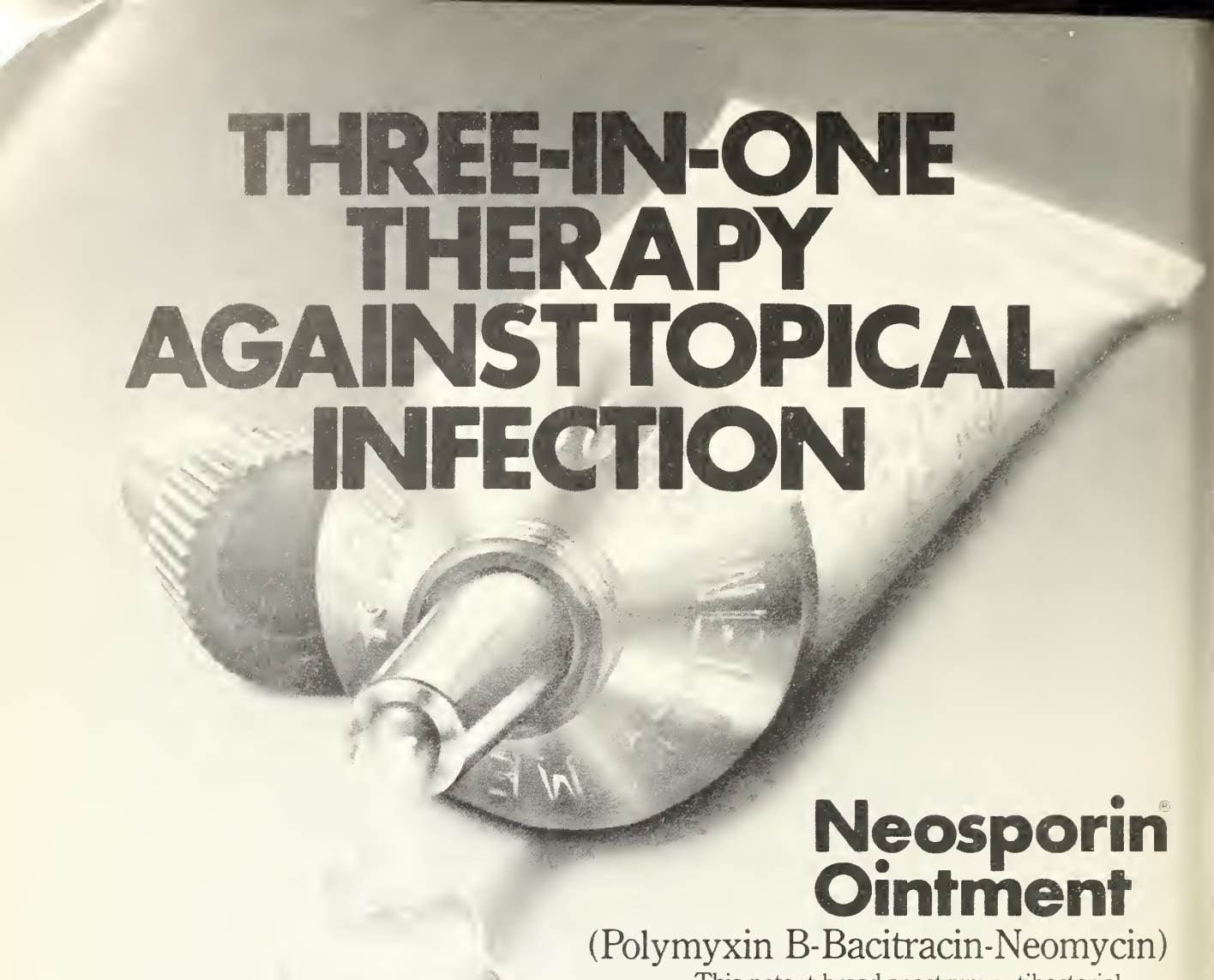

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When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

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The Blue Shield Plan: Unique Partnership Between Physicians and the Public

Partnership Represents A Response To The Real Needs Of The Public

By Douglas J. McIntosh

Next year marks the 30th anniversary of Blue Shield of Rhode Island. There will be much to celebrate. The unique blend of leaders from the medical field and from commerce has grown into an organization which has gone well beyond its chartered role as a prepayment mechanism. Blue Shield has evolved, by necessity and design, from an unsophisticated claims processing agent to a legitimate social force, destined to enhance our health care system.

In the mid-40's, with war the national preoccupation, a poll requested by the Rhode Island Medical Society showed that Blue Cross subscribers were overwhelmingly in favor of a prepaid surgical plan. Soon after the war the Society held exploratory discussions with the Hospital Services Corporation (Blue Cross), based on a mutual recognition of the Rhode Island public's need for a voluntary system of medical care delivery and financing on a statewide level.

Voluntary was a key word. Blue Cross president Kenneth D. MacColl wrote this to the Rhode Island Medical Society: "If the Rhode Island Medical Society intends to do its share to reduce demand for compulsory health programs such as recently introduced in the Congress, then it will find that only enrollment of a high percentage of the population will be an effective argument. It is our sincere belief that the Society and Blue Cross working hand in hand as local organizations can do a job which would set the pace for the rest of the country." Doctors from the Rhode Island Medical Society formed Physicians Service, which became a partner with the Hospital Corporation of Rhode Island in November 1949.

DOUGLAS J. McINTOSH, *President, Blue Cross and Blue Shield of Rhode Island*

Two weeks before Christmas of 1949 Stanley H. Saunders, Blue Cross executive dirctor, returned from a brainstorming session at the Medical Society, where fee structures and benefits were being prepared. Saunders penciled in a reminder at the bottom of an agenda pad items he considered essential to cover:

1. Newborn at 14 days and cover to age 19.
2. Maternity after 7 months.
3. Right to continue after leaving job.

These jottings appear so simple now when we compare them with current concern over complex medico-legal, ethical and social

questions. Yet those basic benefit notations were crucial in making a comprehensive Blue Shield Plan available to everyone. And they stood out in sharp contrast to the limited insurance policies which excluded infants, the pregnant, the unemployed, the ill, or the aged.

This same concern for melding medical and business skills was demonstrated in approval of the first Physicians Service contract, in March, 1950: "Full payment for surgery rendered persons in the lower income groups is guaranteed by the physicians of Rhode Island...when such person is covered...by Physicians Service."

Rapid Growth: Citizens and Physicians Jump on the Bandwagon

We were in an era when the federal government was in agreement with our joint philosophy, echoed in this 1954 address by President Eisenhower: "The best way for our people to provide themselves with resources to obtain good medical care is to participate in voluntary health insurance plans."

Obviously, Rhode Islanders agreed. At the 5th Annual Physicians Service Meeting, Doctor Joseph C. O'Connell, Rhode Island Medical Society president, reported: "In the short space of four years we have enrolled over 400,000 subscribers, an estimated 50.5 per cent of the state population. That ranks us second in the country."

Participation of physicians paralled rapid membership growth. Physicians Service was designed as a plan relying on physicians who would agree to accept a specific set fee for a service. For the plan's success, a large percentage of physicians throughout the state would have to participate. They did — nearly unanimously from the start. There is little doubt that the public would not have so enthusiastically joined a fledgling medical insurance plan if they couldn't go to doctors their familes had known and trusted for years. Neither would physicians have embraced the concept without realization that this was a plan that originated with physicians: a plan that reflected a genuine professional concern for patients' access to quality care at a reasonable price.

Standing Still Is Going Backwards: Blue Shield Surges Ahead

From a few pages of fee schedules covering the most common surgical procedures, Physicians Service began to expand its ideas of health care benefits. Not everyone agreed. Our limits were questioned, but the state's attorney general cleared the air in August 1957 with this sweeping declaration: "It follows that Blue Cross and Physicians Service have the authority and power under their charters to make all such contracts as may be suitable, desirable, or necessary to carry out the purpose of establishing, maintaining, and operating a non-profit hospital service plan and a non-profit medical service plan." The seeds of expanded benefits, such as Major Medical, and a broader role in health care decision-making, were now taking root.

By 1960 handicapped children over 19 were allowed to remain indefinitely under family memberships. And reduced special rates were developed for college students. Major Medical was offered on a jointly-underwritten basis in 1962, marking the first step toward catastrophic coverage. Sales of this benefit, which supplemented basic Blue Cross and Blue Shield contracts, were astonishingly rapid.

In the late Sixties, Blue Shield and the medical profession developed its finest package of medical-surgical benefits, the "paid-in-full" Plan 100 package, which made the A and B indemnity plans all but obsolete. By November 1969, 117,000 Rhode Islanders already had paid-in-full benefits for wide-ranging covered services under Plan 100.

Blue Shield Benefits Subscribers beyond Claims Payments

The objective of the Blue Shield Plan continues to be to serve the public by providing comprehensive protection against the cost of health care to the largest number of people at the lowest possible cost. Physician participants should be proud that more than 85 percent of the people in Rhode Island are protected by Blue Shield, and that out of the subscriber premium dollar 92 cents is returned in benefits.

Yet the obligation, self-imposed by the medical profession, goes deeper. Blue Shield physicians have saved millions of subscriber dollars not only with solid basic coverage, but with imaginative, even courageous benefit development: coverage for mental health, alcoholism, prescription drugs, vision care, and health maintenance organizations, among many other innovative programs.

With the nation's eye on climbing health

care costs, Blue Shield participating physicians have again taken the leadership role by establishing equitable methods to curb inflationary pressures. Utilization Review is but one outstanding example of the selfless effort of physicians to hold the line on spending and to assure the quality and necessity of benefit administration, while at the same time establishing a mechanism that documents to the general public the integrity of claims submissions. Medical alternatives to hospital care, such as Same-Day Surgery, Home Care, and Skilled Nursing Facilities have saved added millions, enhanced access, and provided meaningful alternatives.

Other ventures in which the medical profession and Blue Shield have worked together for the public interest cannot be valued with a dollar amount. Yet they have been vital to the state's health — early fights for polio and measles immunization and the recent reemphasis on basic immunization for children; expanded help for hemophiliacs; and attempts to educate and motivate the public to help themselves by healthier lifestyles through programs such as the jointly sponsored "Change Your Mind About Your Body," "Tel-Med," and the President's Physical Fitness programs.

A Few Hard-Working People Representing Thousands

All of these goals, upgrading the public health and holding the line on health care spending, could not have been attained without a joint effort of a relatively few people. Beyond the Blue Shield administrative staff is the unpaid dedicated Blue Shield Board of Directors. These men and women bring to the conference table broad skills which make them leaders in the community. They give a good deal of time to debate the profound implications of health financing and benefit development and policy-setting. The Blue Shield Board represents a partnership between the medical profession and the Rhode Island public — a partnership dedicated to reflect best the equitable interests of each and the willing participation of both.

The Board's progressive policies have contributed directly to the fact that

- 94 per cent of the practicing physicians in Rhode Island participate with Blue Shield and extend full payment guarantees to the community.
- Over 86 per cent of the state's population is protected by Blue Shield, and more than 70 per cent have Plan 100 for full payment of covered services by participating physicians.
- The federal government reports that Rhode Island Blue Shield is the most cost-effective Medicare administrator in the country.

Future Challenges Will Make Blue Shield Even Stronger

Some view the health care field as no man's land, replete with disabling pitfalls. Certainly the pressures are great: confronting escalating costs and unresolved government plans for national health. But what others may call problems, Blue Shield and its participating physicians recognize as challenge. We've faced similar challenges before, and, because of this unique and spirited partnership between physicians and the public, we will prevail in the best traditions of American medicine and American public service industry.

The accomplishments of the Rhode Island Medical Society, Blue Shield of Rhode Island, and the Rhode Island public represent an impressive story, to live or to tell. And the vitality of Blue Shield of Rhode Island reflects the honest concern of doctors for their patients, and, in the broad sense, for the public as a whole — ultimately, for a medical care system that responds to real needs, compassionately and effectively.

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The Rhode Island Voluntary Effort

Physicians Have Joined The Hospitals In Focus On Cost-Effectiveness of Care

By Wade C. Johnson

Rhode Island physicians have been involved increasingly in collaborative activities with hospitals which are aimed at influencing favorably the cost-effectiveness of care, in both short-range and long-range perspectives. These activities stem both from individual efforts and from cooperative endeavors of the Rhode Island Medical Society, the Hospital Association of Rhode Island, and individual institutions. Ventures of this nature tend to affect in one way or another the professional environment of all physicians in Rhode Island.

The Voluntary Effort: National Genesis; Rhode Island Response

Early in 1978, in response to a challenge from Congressman Daniel Rostenkowski to the private health-care industry to find a viable, voluntary alternative to pending legislation for "cap"-type cost controls, a national program called The Voluntary Effort was rapidly formulated and implemented under joint sponsorship of the American Medical Association, the American Hospital Association, and the Federation of American Hospitals (proprietary hospitals). Suggested structures and activities at the state level for assessing and maximizing hospital cost-effectiveness, and national goals for cost containment, were reviewed and endorsed by a national multi-discipline steering committee—and then the word went out from the national sponsoring organizations to their respective state societies and associations: Form a joint "Voluntary Effort" committee at the state level; study the national goals and recommendations and the situation in your own state; agree on your own program and steps to implement it; and report to the national sponsorship so that it can keep the Congress and the public informed of efforts and results.

In Rhode Island the response was the formation on January 26, 1978 of a joint Medical Society/Hospital Association "Voluntary Effort" committee composed of the chief elected officer, the chief salaried officer, and one other staff representative of each of the two organizations; the president of the association of hospital medical staff presidents of Rhode Island; and the chairman of the Hospital Association's council on third-party contracts and reimbursement. Rhode Island has no proprietary hospitals.

Rhode Island Committee Findings and Plans

This joint Committee at its initial and subsequent meetings examined the Rhode Island situation and reported its findings and recommendations. The highlights are these:

- That a voluntarily-established mechanism already in place in Rhode Island, which effectively addresses many aspects of hospital cost containment, has already surpassed the goals set by the national Voluntary Effort — namely, Rhode Island's prospective reimbursement program conducted jointly by the Hospital Association of Rhode Island, its member hospitals, Rhode Island Blue Cross, and the State Budget Office. This program has already brought the average annual percentage of hospital cost increases in Rhode Island to

WADE C. JOHNSON, *President, Hospital Association of Rhode Island, Providence, Rhode Island*

about 10 per cent, a rate roughly two-thirds the national average last year.

- That related cooperative voluntary efforts, such as review of proposed new medical programs, hospital utilization review programs, and hospital shared services, which have existed here in a major way for a number of years, have contributed to the good cost-containment record cited above. It was noted as significant that all of the voluntary hospitals in Rhode Island have been approved by the Rhode Island Professional Standards Review Organization as fully delegated and qualified to conduct the reviews required by and for that organization.
- That the joint planning/programming mechanism of hospitals and their medical staffs, now being organized by the Hospital Association of Rhode Island, should further strengthen the effort to advance cost-containment, appropriate quality, and effectiveness of hospital services in the future. The structure for this effort brings together equal representation from the medical staff, the governing board, and the administration of each of the hospitals seeking to address jointly the tough issues of how to set priorities for using finite resources for the future of health care services in Rhode Island.

Future Plans for Liaison and Solicitation of Suggestions

The Rhode Island Joint Voluntary Effort Committee at its late-September meeting agreed that, while it should retain its identity as a core committee of provider-related representatives, it will shortly be inviting the major purchasers and insurers of health care in Rhode Island to join in a cost-containment liaison committee through which we can report the results and plans of the Voluntary Effort and invite ideas, concerns, and questions from these outside groups. Early dialogue is also contemplated with the Rhode Island Professional Standards Review Organization as to how its future plans and ours may enhance each other's efforts.

The statistical results nationally of the Voluntary Effort reported to date have been encouraging. In Rhode Island, where results already exceed the projected two-year national goal, we believe that the appropriate efforts and structures for future cost-effectiveness, with proper physician involvement, are falling into place.

ha
hospital association
of rhode island

What meaning does all of this have for the average physician practicing in the community? We believe it means that through his medical staff affiliations and other professional organizations he will find more opportunity to examine — and will be held more accountable for — outcomes in relation to expenditures for health services over which he has some influence or decision-making authority. In doing this he will have better tools, such as improved displays of hospital discharge information, which can shed new light on the effectiveness (or ineffectiveness) of various resources and strategies in treating specific conditions. Thanks to the efforts of various organizations, we think he can also look forward to more and better cooperation and joint effort between physicians and the hospital trustees, administrative and technical personnel, and other non-physicians who can assist him in this new way of life.

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The Rhode Island Professional Standards Review Organization — Achievement of a Medical Care Review System

RIPSRO Has Great Potential For Improving The Quality Of Medical Care And Reducing Costs

By Alton M. Paull, MD, FACP

Judging from its obscure and modest beginning, one would never have thought in 1972 that the Rhode Island Professional Standards Review Organization (RIPSRO) would have achieved its present degree of success. Its development will be described in this paper. We believe that it has further great potential. Members of the Rhode Island Medical Society were substantially involved in its formation. The unqualified support of the Rhode Island Society of Osteophathic Physicians and Surgeons assured acceptance of our application. RIPSRO was federally funded in July 1974 to plan the implementation of the medical care review system. During this planning period, from July 1, 1974 through June 30, 1975, physicians and staff conducted on-site visits at area hospitals, explaining to physicians and other health care professionals the part they would be asked to play.

Conditional Status

During the first year of conditional status under contract with the Bureau of Quality Assurance of the Department of Health, Education, and Welfare the RIPSRO staff was slowly expanded. The basic ingredients of the Formal Review Plan of the medical system were formulated. Throughout the conditional period from July 1, 1975 to the present an in-depth assessment of hospital capability and willingness for delegation was initiated through detailed evaluation of hospital Utilization Review Plans. These plans were evaluated against the RIPSRO Delegation Criteria developed by practicing physicians. On-site visits were conducted, peer review meetings were held at hospital levels, and the development of a data system to monitor the concurrent review system was planned.

Physicians Recruited

The governing body of RIPSRO, comprised of 21 practicing physicians, was elected in February 1974 by the incorporators of RIPSRO. Since that time an annual meeting has been held every November to elect/re-elect both officers and directors. During this period RIPSRO recruited and continues vigorously to recruit the physician population. As of the date of this writing, RIPSRO has in its membership approximately 85 per cent of the doctors of medicine and osteophathy in Rhode Island. The recruitment percentage is one of the highest in the nation. RIPSRO policy is directed by a Board consisting of twenty-one

ALTON M. PAULL, MD, FACP, *President RIPSRO; Assistant Clinical Professor, Brown University, Division of Biology and Medicine, Providence, Rhode Island*

Rhode Island physicians. Advising the Board on policy matters is an Executive Committee. For daily operations of the organization the Board delegates responsibility to the President/Medical Director, who is accountable to the Board.

The Board and President/Medical Director are supported by 8 active committees which promote the goals and objectives of the PSRO program in hospitals and, in the near future, in other health care institutions as well. The total membership comprises 140 physicians.

What is a medical care review system? The three hospital review system components are the basis of the RIPSRO program. *Concurrent review* certifies the necessity, the appropriateness, and the quality of services during the hospital episode and assures that Medicare and Medicaid payments will be made as long as the patient is eligible and services provided are covered benefits of the program.

Medical care evaluation (MCE) studies constitute a form of health care review in which an in-depth assessment is made of the quality of the health care services. These studies are designed to assure that the health care services are appropriate to the patients' needs, of good quality, and timely.

The third ingredient of the system is *profile analysis*. This mechanism is a form of retrospective review in which aggregated patient care data are subject to pattern analysis by physicians.

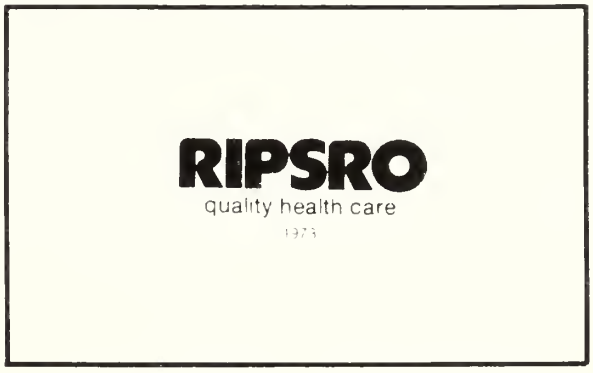
All Rhode Island Hospitals Delegated

Since December 1977 all acute care hospitals in Rhode Island have been fully delegated by RIPSRO. These hospitals have been monitored on a quarterly basis and at other specified times when difficulties are recognized. The Utilization Review Committee, which makes decisions regarding delegation, is comprised of representatives from each of the 15 short-stay hospitals. Thus, all hospital medical staffs are directly involved in the decisions of the committee and are in a position to channel appropriate information to their respective medical staffs about the work of the PSRO.

The Medical Care Evaluation Committee of RIPSRO, comprised of representatives from each of the short-stay hospitals, performs areawide MCE studies, and reviews the individual audits submitted by each of the hospitals. The committee is committed to placing great emphasis on evaluation of improvement in patient care by the carrying out of restudies. This emphasis will be a priority concern of RIPSRO during 1979. Continuing medical education will be directed to the needs, if any, as defined by profile analysis. The first study — on pulmonary embolism — has recently been completed.

Profile Analysis and Data Use

The delivery of health care is an extremely complex process determined not only by the demographic and diagnostic descriptors of each patient but also by the philosophy of the physician and the different treatment patterns that he may choose.



A powerful tool for quality and cost control is the technique of profile analysis. This retrospective review data on patients, hospitals, providers, diagnoses, or operation categories can be compared in terms of utilization and outcomes. Problems appearing as anomolies in these profiles can be subjected to further investigation by RIPSRO physicians to determine the level of acceptable variations. Our organization has developed a basic operational plan to support profile analysis activity.

Long Term Care

A long-term care plan submitted to the Department of HEW last spring has been approved and was funded for implementation.

The RIPSRO long-term care quality assurance program will replace utilization review and medical review in skilled nursing facilities. However, the Rhode Island Department of Health will remain under contract with the Medicaid agency to perform continued stay review for patients at the intermediate care facilities (ICFs).

It is expected that the program will be implemented in the skilled nursing facilities early in 1979. Initially one delegated hospital and two skilled nursing facilities have been chosen to field-test the review methodology for a ninety-day period. The existing utilization review mechanism in the nursing facilities and those operated by Medicare and Medicaid will remain in place until RIPSRO is ready to assume responsibility in each facility. For long-term care review RIPSRO plans to recruit physician advisors from the nursing home staffs and from a list of 200 physician volunteers who have made application to RIPSRO.

Single System

RIPSRO is a dynamic and growing organization with a clear goal in mind: A single review system for the State of Rhode Island, both in the hospital and in long-term care settings under professional direction. Increased volume will reduce overall review costs and will provide greater opportunity for in-depth monitoring of the population that will be subject to review. The current partnership between the medical profession and the federal government through the PSRO mechanism will have a greater likelihood of survival if it has the continued support of both physicians and other health care providers.

Conclusion

The ingredients for the continued success of PSROs and for RIPSRO are clear. There must be a medical profession that understands and supports the PSRO concept, a skilled and talented staff both in the hospitals and in the nursing homes, adequate public and private funding, and recognition by funding agencies of quality assurance in the health care field. RISPRO has made great strides in implementing the federal law. The PSRO program will continue to have impact and will continue to serve the needs of federal beneficiaries. We believe further that the Ancillary Services Review Program, which is now in operation, has a considerable potential for reducing costs. However, to achieve these goals the strong commitment of the physicians of Rhode Island already in evidence is essential.

Acknowledgement

I should like to express my appreciation for the cooperation and support of the RIPSRO staff in preparing this paper for publication.

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SEARCH: A Review of a Joint Venture

Represents A Consortium For Maintaining Data Systems And Conducting Research Responsive to Government And Private Requirements

By James P. Cooney, Jr. PhD

An editorial (1970) in the Providence *Evening Bulletin*[1] commenting on the new recently established Rhode Island Health Services Research (SEARCH) corporation viewed it as a "constructive and welcome development" not only for its potential service to the community, but also as a mechanism for bringing together for the public good "diverse interests" represented by the founding organizations. "Each of the organizations has its own competency to contribute to (such) an undertaking."

The Rhode Island Medical Society was one of the original eight organizations* and agencies which cooperated in the formation of SEARCH. As a consequence, the accomplishment of the SEARCH goals and objectives since its incorporation as a not-for-profit consortium in 1970 has involved the Rhode Island Medical Society as an organization, and its members as individuals. While specific involvement may be more implicit than explicit, each of the sponsoring organizations has played a critical role in the continuance of the SEARCH organization.

*The other founding organizations were Blue Cross-Blue Shield; Rhode Island Department of Health; Brown University; Health Planning Council; Department of Mental Health, Retardation, and Hospitals; Hospital Association of Rhode Island; Board of Regents for Education. In 1976 the Rhode Island Professional Standards Review Organization, Inc. joined the consortium organizational membership.

JAMES P. COONEY, JR., PhD, *Chief Executive Officer, Rhode Island Health Services Research, Inc., Providence, Rhode Island*

Organizational Role and Objectives

The original role of SEARCH as defined by the founding consortium was "for the purpose of conducting or procuring the conduct of studies, surveys, research or demonstration projects, and other related activities designed to explore, encourage, and evaluate various means of effecting improvements and changes in the delivery of personal health services within Rhode Island which are professionally and publicly acceptable; which result in the equitable and effective access to and distribution and proper utilization of public and private health services; and which lead to the increased effectiveness thereof."[2] The role could best be characterized as one focusing on applied research problems and evaluation efforts related to the health delivery system. In 1974 the original role was expanded beyond research and evaluation to include that of an informational center for health statistics.[3]

Characteristics of the Joint Venture

Despite the evolutionary character of the SEARCH program, certain "givens" appear implicitly at the beginning of the organization and remain today. Those "givens" are perhaps

best understood through the nature of the consortium/joint venture characteristics:

- Every organization represented in the consortium shares a common interest through SEARCH: the need for data and technical assistance in its use.
- Each consortium organization should depend upon SEARCH for a needed service or spectrum of services.
- The member organizations both govern and use the services of SEARCH.
- SEARCH provides a neutral ground to all organizations for the purpose of data maintenance and uniformity of analysis. Each organization through SEARCH has access to a uniform fact base, although the interpretation of the fact base (not a function of SEARCH) may vary among the organizations.
- SEARCH provides to each organization of the consortium technical assistance that might otherwise not be available, such as collection methods, data organization for analytic purposes, and special problem analysis related to health care research and evaluation.
- The smooth operation of the total consortium should result in economy of scale by producing a single specialized technical resource rather than duplicative effort, providing an economy to both provider and user. Finally, and not necessarily facetiously, the economy of debate focuses on interpretation of trends and patterns rather than debate over who has the correct information.
- SEARCH assists the members of the consortium both unilaterally and multilaterally. SEARCH is, at least in concept, part of each organization of the consortium and an extension of each organization. Consequently, the concept of reciprocity is the only factor that will make this organization work.
- Each member organization must give SEARCH a reason for function, and SEARCH in return provides to the organization: access to information and technical resources for use that didn't exist before the development of SEARCH, *or* access to improved information and expanded technical resources; and equal and uniform data access among the organizations, economy of effort to the providers of information, and appropriate and controlled use of the information.

SEARCH was created and maintained basically as a health information and research evaluation resource for Rhode Island. While it is governed jointly by a group of organizations, the resource is not limited only to those organizations. Any organization or individual can have access to the SEARCH technical and informational resources by: 1) contract for service such as special research/evaluation studies or informational analysis developed from existing data resources; 2) use of generally available reports on health-related patterns and characteristics of the population and delivery system. Such access is limited, however, by relevance of the request to overall program objectives and existing organizational capacity.

The development and maintenance of an organizational capacity including both data and persons technically trained in the collection and analysis of data is a continuing problem for SEARCH. Basically the organization is fiscally maintained from a "soft" money base — and with no guarantee as to duration or amount. A minimal core staff and informational base must be maintained for organizational viability, with capacity to expand as needs dictate. Despite the ebb and flow of contractual dollars, the organization has been able both to expand and to maintain informational resources and keep a core technical staff available. The existing capacity is not as great or as responsive as we all would like. However, given the continuing unknown vagaries of changing information and research needs, what has been done should not be forgotten.

Informational Bases

Through a variety of funding mechanisms (public and private, local and national) and collection and access mechanisms, the following general minimum data bases are available to SEARCH: general population; vital events; health manpower and facilities; short-term hospitals and long-term care institutions; ambulatory service patients; health care expenditures; and population health behavior, attitudes, and expenditures.

All of the data bases with the exception of health care expenditures restrict geographic location to the census tract level. However, no individual is identified by name within the files. Therefore, while studies or profiles of health status, behavior, or resources can be done for small geographic areas within the state, no individuals are identified or are identifiable in the statistical aggregates.

While all of the data files currently exist, they have been individually developed at various times over the past eight years as dictated by local needs and resource availability.

Use of Informational Bases

The data bases form the core informational, but not the sole informational resources of SEARCH. Aggregation of these data bases occurs for the purposes of general statistical publications such as the corporation's Profiles from the Health Statistics Center (15 have been published since 1973); and special research and evaluation studies or special informational publications contracted for by a variety of local and national organizations. While it is difficult precisely to quantify the number of special studies or informational publications proposed by SEARCH, the number now exceeds 150. Over and above special studies and general purpose publications, the corporation responds to an ever-increasing number of *ad hoc* requests for information or technical assistance. During the past twelve months the number of such requests exceeded 300.

The joint endeavor that is SEARCH is the result of a blend of several components — the organizational form of the consortium, the governance structure, the data bases, the products and, not the least, the staff, skilled in various disiplines related to health statistics and their application to health delivery. In a paper published in the *Rhode Island Medical Journal* in 1974,[5] the former Executive Director, Doctor H. Denman Scott, commented on the growth of the Search Staff both in number and expertise. He enumerated the staff level skills, which continue to be available and include demography, medical sociology, economics, biostatistics, health care information, nursing, and computer science. The staff has increased to almost 50 persons. The corporation has also created advisory mechanisms to provide expert guidance in specific projects. An example is the Professional and Scientific Advisory Board, a committee composed of experts outside the corporation governance and staff structure, which reviews the total program of the corporation and its general direction. The Physicians Advisory Committee, another example, comprises a group of Rhode Island physicians, who advise corporation staff in the use of the clinical medical aspects of the various data bases.

As with any joint endeavor, not only the maintenance but the continued growth of SEARCH depends upon a continued reaffirmation and strengthening of the various components in the mix. This is as true of the data bases as it is of the staff and as it is of the products of the corporation program.

Doctor Scott stated in 1974:[6] "If SEARCH as an organization is to amount to anything over the long haul, it must define a role whereby a central core of health data can be jointly defined and controlled, and the interests, needs, and realities of both the public and the private sectors are considered. ...SEARCH represents a rare arena in which it may be possible to complete and maintain data systems and conduct research studies which are responsive to governmental and private requirements..." That observation is as true of our joint effort today as it was in 1974.

References

[1]Rx for better health, editorial: *The Evening Bulletin*, Providence, Rhode Island, May 21, 1970

[2]*Articles of Association, Rhode Island Health Services Research, Inc.*, filed with Secretary of State, May 12, 1970

[3]Action of Board of Trustees, Rhode Island Health Services Research, Inc., in meeting, February 14, 1974; *Articles of Association, Rhode Island Health Services Research, Inc.*, revision, June 1976

[4]Remarks of the Executive Director, Rhode Island Health Services Research, Inc., in annual meeting, November 5, 1975

[5]Scott HD: SEARCH seeks an identity. *R I Med J* 57:292-297, Jul 75

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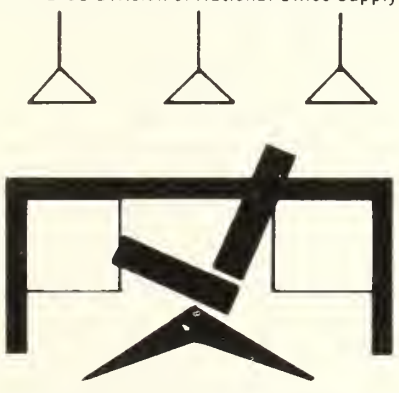

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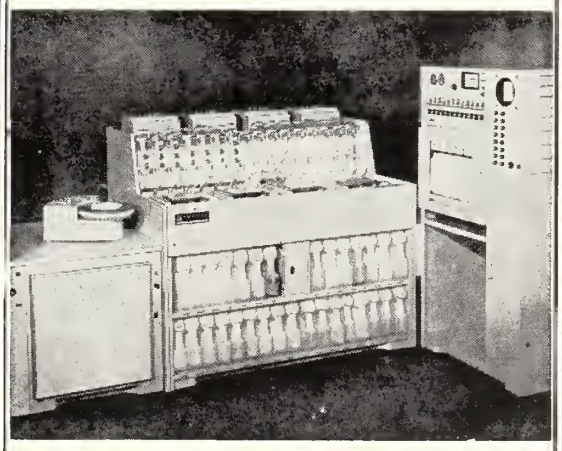

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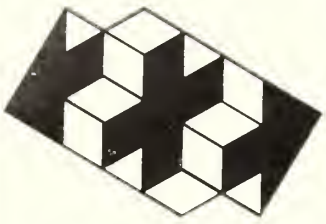

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The Rhode Island Medical Society and the AMA

Major Health Care Concerns Of Physicians And The Public Currently Revolve Around The Cost Issue

By Tom Nesbitt, MD

Medical Associations of all sizes and physicians are being challenged by the health care delivery sector these days. However, unlike the usual challenges—challenges to help provide an atmosphere in which physicians can deliver higher quality care in ever increasing quantities—these ask the societies to help their members find ways to deliver high-quality care while practicing cost containment.

Two vehicles to meet these challenges have been in the public eye for some time. One is the Voluntary Effort, a joint effort of the American Hospital Association, the American Medical Association, the Federation of American Hospitals, and other sectors of the health care industry, including suppliers and payers, to reduce the rate of increase in health care expenditures. The other is the National Commission on the Cost of Medical Care, whose Summary Report containing 48 recommendations to contain health care costs was released last December.

TOM E. NESBITT, MD, *of Nashville, Tennessee is president of the American Medical Association.*

Voluntary Effort

The Voluntary Effort is one of those rare opportunities for the AMA to work with local societies toward a common, visible goal. State committees are constituted on the same basis as is the national steering committee. There are committees in all 50 states, and most have met to draft resolutions in support of the effort and to begin to outline a program that will work to best meet the needs of each state.

The best news is that the goal that each state achieve a two percentage-point reduction in the rate of increase in hospital expenditures during 1978 and again in 1979 appears to be reachable. First quarter figures for 1978, announced in June, indicated a slowing of the rate of increase in expenditures to 13 per cent, three percentage points below the 16 per cent rate of increase recorded for the first quarter of 1977. And preliminary second quarter figures show that success is still ours. Of course, hospitals across the country, with the help of the physicians who staff them, were already working to cut expenditures when the Voluntary Effort was implemented. With the cooperation of the state committees, we will continue to meet the challenge.

The Summary Report of the National Commission

The second vehicle to meet this challenge, the Summary Report of the National Commission, covers more areas and involves a more broadly based set of goals. The groundwork for the commission was laid in mid-1975 when the AMA Board of Trustees had some lengthy discussions on the problem of escalating health care costs. To answer some of these questions, the Board decided to appoint a freestanding autonomous commission. Members would be invited from the health care delivery sector, from government, from consumers, from business, from labor, and from the academic community; the association would fund the activities and provide adequate staff, but would not ask accountability from the commission. The Commission would be told that its report would be issued publicly without prior review from the AMA.

The National Commission that was formed from these plans held its first meeting in March of 1976, at which time the members divided into four task forces: marketplace, demand, supply, and technology. It was through the task force work that the basis for the Commission's recommendations was established. Task force meetings and plenary sessions were held for two days every other month over 20 months.

The plenary sessions were utilized to bring speakers, both commission members and invited guests, to address broad issues that affected the commission's deliberation. For example, demographic projections were presented by the US Census Bureau; possible legislative programs by representatives of the US Department of Health, Education, and Welfare; and various alternative delivery systems by physicians and economists knowledgeable in those areas. Other programs and possible experimental designs were discussed. The plenary sessions also were the scene of lively discussion among the commission members.

Recommendations

The 48 recommendations that emerge come down philosophically on the side of strengthening the role of the marketplace in the delivery of health care as opposed to favoring a regulatory route. Many recommendations are not totally acceptable to the AMA; others present problems to the various entities involved in the commission proceedings.

Throughout the time the National Commission was meeting, state cost commissions were formed and cost committees already in existence stepped up their efforts. AMA staff assigned to the commission was able to share programs, information, and insights with the state efforts, and the states were happy to share with the commission. Here again there was a wonderful opportunity to work together toward common goals.

The National Commission, through discussion and study, recognized the problems that are causing the rate of escalation in health care costs, and they recognized that there are failures in the market system that are preventing the system from working. They sought competitive measures that would create incentives to modify the stalemate situation and to allow the marketplace to begin to function.

The first thing the commission said was that, to aid the marketplace, there would have to be a strengthening of price-consciousness by provider and consumer alike. That is a very important idea. The notion of price-consciousness must become paramount to the providers of health care—physicians and hospitals—to the public, and management, and to government before insurance programs can be appropriately restructured around some new concepts.

Variable Cost Insurance

One such concept, put forward for further study by the commission, is called variable cost insurance. How would it work? Let's say that two persons are employed by the same company and pay the same premium every month for the same group insurance policy. One month both employees require gallbladder surgery. One employee's physician puts him in a large famous teaching hospital for the requisite number of days and orders appropriate tests and laboratory work. The other employee's physicians uses a small hospital for the same procedure. The second employee's bill is less than that of the first. Under conventional insurance policies the second employee would subsidize the first employee's health care bill. Under variable cost insurance options to choose various types of care—and to pay for them accordingly—would be offered. Employees would be offered

coverage that would reward their level of price-consciousness by correspondingly lower premiums, or they could choose to pay the price of more expensive care. In short, variable cost insurance would allow persons to share the costs of what they buy.

And there are other ideas to be tried from the Commission Report, each proposed as a model that can be studied for feasibility. If a concept proves to be applicable after study, it can be implemented on a broader scale. Implementation will have to be done on a cooperative basis, with the understanding of all those involved in delivery of health care: physicians, hospitals, labor, business, insurers, and consumers—in short, the groups that sent representatives to the commission meetings so that the report could be drafted.

Action of the AMA House of Delegates

The AMA Board of Trustees reviewed the Commission Report, recommendation by recommendation, and sent its report to the House of Delegates for review at the annual meeting in St. Louis in June of 1978. The board recommended acceptance of the commission's philosophy, and the house endorsed the statement "that one hope for cost containment in the provision of health care lies in strengthening price-consciousness in the health care marketplace." The commission's recommendations on consumer price-consciousness also were endorsed by the House.

Public utility regulation was addressed in several recommendations, the House agreeing with the Board that government should not enact new regulation and should review existing regulations. Other regulatory measures were referred for further study. The economics of medical care was addressed by the commission, and the House agreed with most of its recommendations.

The commission's recommendations on patient and consumer education and other broad programs from the report also were adopted. There isn't space to review the entire report here, but I can say that the house action has given the AMA and interested local societies an impressive agenda for the future.

Reduction of Regulatory Activities

For the first time, then, steps to repair the market have been identified so that additional regulatory activities from the federal government can be averted. There may even be a chance to turn around some of the regulations already in place.

The marketplace must be given a chance to work, because increased regulation can serve only to ration care. If regulation, such as a hospital cap, is instituted, stagnation and rationing will set in. Twenty-five years from now there won't be the progress we've seen over the past 25. Instead, the picture will look as it does now—the evidence is in other countries with a national health service.

In order to avoid stagnation under regulation, the private sector must take the initiative and must reinstate a health care marketplace that can work with as few regulations as possible. The Commission Report is a guide to that kind of end.

In another effort at reducing the escalation rate of health care costs—this one tailored specifically to physicians— at our annual meeting in June, I asked individual physicians in their own private practices voluntarily to restrain the rate of professional fee increases. I did not ask them to make sudden across-the-board reductions in specific fees for specific professional services. Physicians after all are not exempt from the hard realities of today's economy.

Moderation of Fee Increases

Physicians, like hospitals, are subject to higher overhead costs due to such factors as rising prices for heating fuel, supplies, and employee wages. But they can place realistic restraints on the rate of escalation of the periodic fee increases necessary to cover those expenses. Of course, "realistic" must include whatever is necessary to maintain high-quality patient care.

This request is reasonable for many reasons. It asks no more of physicians than is being asked of other components of the health care system. If hospitals are expected to reduce the rate of spending increases by two percentage points in each of the next two years, then it is proper for physicians to demonstrate their sincerity and good faith by moderating fee escalation rates. For most physicians the resulting financial difference would be moderate and would merely reflect an extension of an already downward trend in the rate of professional fee increases.

If each physician can moderate annual fee

increase rates by one per cent in each of the next two years, the fee escalation rate would come close to—and perhaps even be under—the "all items" index of the Consumer Price Index.

Importance of the Cost Issue

Will physicians rally to this call? I think that they will. Recent public opinion polls show that a majority of physicians, along with a majority of the general public, agree that the major health care concerns in our society today revolve around the cost issue. Physicians realize that, if certain proposals now in Congress are enacted, the previously forbidden ground of professional fees will become a playground for legislators, economists, health planners, consumerists, and whomever.

Physicians also realize that if government controls over hospital revenues and professional fees are added to existing controls arising from government's substantial health insurance financing commitments, then for all intents and purposes government will control the quality and the quantity—in terms of access—of health care in this country.

Perhaps the health care industry can, indeed, lead this nation down a little bit different—and certainly more progressive—track than that of government's road of regulation. It's worth a try.

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Editorials

Interface: RIMS

This special issue of the JOURNAL is devoted to papers prepared by a member of Rhode Island agencies with which the physicians of Rhode Island and the Rhode Island Medical Society have daily contacts and mutual interests. All of them have a genuine concern for a strong medical community and a healthy and influential local branch of organized medicine.

While we do not always see eye to eye on specific issues and while an adversary relationship is at times necessary to address certain problems, there is always a mutual understanding of the stresses and pressures — political, economic, social, and human — to which all of the responding groups are exposed. The happy relationships that exist in Rhode Island are certainly not universally present in our sister states.

We are proud of the cordial and perceptive friendships that are so evident here, and appreciate the messages from so many associated groups that bear this out (the response to the Society's request for papers was 100 per cent).

We urge our readers to peruse these papers carefully and thoughtfully and to join with the editors in expressing our appreciation to our friends and associates in health care for their expressions of good will.

Postsurgical Decompression and Immediate Elemental Feeding

The readers who were active in surgery during the World War II days of long ago will remember well the early dismay followed by happy amazement at the success of early ambulation following major surgery in hastening convalescence. The motivation in the military was early return to duty, but it proved the detrimental effect of prolonged rest in bed, which had been recognized in the clinics of Eastern Europe at least ten years earlier, probably inspired by the need for thrift. As a result the length of hospitalization was shortened appreciably.

Now there is a prospect that patients may be discharged as early as two to four days following major surgery if early feeding is accomplished.

It has long been known that distention of the bowel is secondary to swallowed gases. Furthermore, Moss and associates[1-3] have demonstrated in man and animals that exclusion of swallowed air from the gastrointestinal tract, maintenance of adequate levels of plasma albumin, and attention to electrolyte balance will prevent the development of adynamic ileus. Even very brief periods of deprivation of nutrition produce cell changes in the bowel, demonstrable by electronmicroscopy, which contribute to the ileus and delayed bowel function. Under conditions of adequate postoperative nutrition, albumin and globulin synthesis is stimulated, administered glucose is oxidized more extensively, bowel and abdominal wounds have greater tensile strength at 96 hours due to better collagen synthesis, and there is a marked elevation in the insulin level. DNA synthesis is also accelerated. Thus the surgeon achieves a major goal, namely a stronger wound earlier.

Moss has demonstrated that a conventional nasogastric tube or gastrostomy is an inefficient way of aspirating air from the

stomach. The stomach acts as a series of longitudinal tubes or conduits, rather than a single contracting sac. To improve aspiration he has devised a three-lumen tube with a balloon, which facilitates simultaneous aspiration of the esophagus and stomach and feeding of an elemental diet by way of the duodenum. The tube, while large (No. 20 French), is said to be tolerated reasonably well.

By this method bowel function and nutrition are restored immediately, and wound healing can be significantly accelerated. The Moss tube is now available commercially. Moss initially reported 31 consecutive cholecystectomy patients ranging in age from 22 to 71 years, who were given hyperalimentation by this method. Six were discharged at 48 hours after surgery, 12 at 72 hours, and the rest in 96 hours. There were no complications or dissatisfaction. Since then Moss[4] has continued this practice with uniformly satisfactory results in a variety of cases subjected to many types of abdominal surgery, including bowel resection.

While it is still too early to consider this an established practice, the later experience of Moss and others appears to confirm his findings.

If this most recent advance in surgery proves to be sound, the length of hospitalization of surgical patients will be further shortened to a significant degree. We shall follow this promising contribution with great interest.

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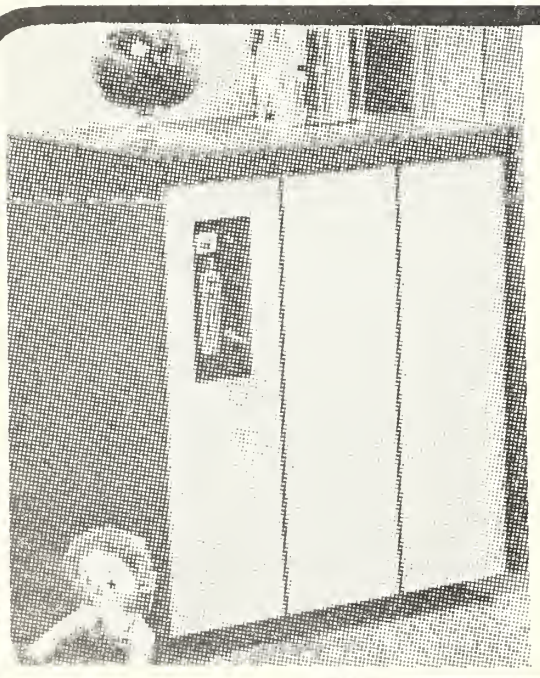

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Guest Editorial

The Future Shape of Health Care

By Peter F. Drucker

President Carter is expected to announce very soon "principles" for major health-care legislation. But the future American health-care system is being built right now, and without benefit of legislation Mr. Carter's proposals, whatever they might be, can be bluntly called "non-starters". There will undoubtedly be congressional hearings on them with mountains of testimony, studies and reports. But if these produce anything at all, it will be the proverbial "ridiculus mus," the ridiculous, tiny mouse.

The reason for this is not even resistance to the costs of new government programs. It is the total absence of any grassroots pressure for major health-care changes.

It is simply not true that the American people are dissatisfied with the health-care delivery system. The overwhelming majority in any survey—some 90% or so—declare themselves "well satisfied" or "highly satisfied". It is even less true that Americans feel themselves "suffering under the staggering costs of a fee-for-service system," as I heard one of our distinquished Senators orate recently.

Doctors and hospitals are in large part on a fee-for-service basis; patients are not. Nineteen out of 20 of us — around 95% of the population — have a prepayment health plan and do not pay for the services we receive. Indeed, that may be one of the reasons why health-care costs are so hard to control.

The majority of us are enrolled in employment-based plans with the rest being on Medicare or Medicaid. And most of us neither know nor care what our individual health-care insurance costs are. It is considered to be "free" in most cases: that is, the costs, as in a National Health Plan, are being paid through a compulsory levy that is pre-take-home pay and pre-income tax.

The only reason, I suspect, that we still hear of a "National Health Service" is Sen. Edward Kenedy's — understandable — desire to have his name on one piece of major national legislation. Even the unions who sign their names to the Kennedy proposal and testify for it, are at best lukewarm. Every one of the union officers and union staffers with whom I have talked wants health-care benefits to remain a bargainable issue which, of course, it would cease to be if we legislated a National Health Service that covers everything for everybody.

Indeed, most union leaders — and even more their staff advisors — see health-care benefits as the *only* area of potential union gains in the years ahead, considering the resistance to wage increases and to higher taxes, and freedom to bargain on health-care benefits as essential to the very survival of the American labor movement.

Health-Care Prediction

While the administration and Congress fight sham battles, the future American health-care system — at least for 95% of the population — is rapidly emerging and can be predicted with very high probability. It will be different from the present one in three aspects:

- in the coverage of health-care costs;
- in its pluralism of health-care deliverers;
- in its organized control and self-control of medical standards and health-care costs.

Five years hence around three quarters of the American people will have "catastrophic illness insurance" — fewer than 60% have it today. Ten years hence 95% will have it. There will be no "ceiling," that is, no maximum beyond which the insurance does not pay. There is actually no such "ceiling" today — except in the contract. As every hospital knows

(Continued on Page 468)

Reprinted from *The Wall Street Journal*, Wednesday, July 19, 1978

PETER F. DRUCKER, *Clarke Professor of Social Sciences, Claremont Graduate School, Claremont, California.*

Editor's Mailbox

Maurice W. Laufer, MD

To the Editor:

The lines which follow explain themselves:

IN DEDICATION
AND
IN LOVING MEMORY
MAURICE W. LAUFER, M.D.
1914-1978

Consideration, contemplation
Concern, worry, disappointment
As the loving others of your life
take humanity's weak step backward.

Encouragements, clarifications
The others regaining
With a stronger foothold, as they were permitted a sharing in your being.

Your bashful smile, aware
Your directing hands folded before your stooped frame
Your composure, wisdom, terse comments, occasional cynicisms, yet an aloneness, a privacy.

We think, we feel, we wonder
At times there is fear or joy
Although in a community we reside,
it seems we are often alone.

Was there sadness for you?
Confusion of purpose?
Where were we, the community's comforters, unavailable to our own,
each too alone?

Instead we are entrenched in further knowledge and research.
We embrace so tenaciously position and its supporting materialism,
Permitting an elusive, yet ever present but subtle, enmity between the genuine, true needs of the I and of the thou.

And all the while one, many or all
Of us
Suffers too; quietly, privately alone, forgotten.

Not so!
For all
Aside from one's cultural expressions or clumsy disinclinations
There is the One,
Of Whom each is a part.

Even in our solitude, Maury,
We remain steadfastly a part;
Although imperfectly alone
The Fullness of Perfection awaits.

Your life has taught
That service to others never passes for naught.
May a spark of love from the smile of your presence
Permit the glow of concern to weaken, our self-oriented essence.

Ronald Jerome Cavanagh, MD
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charges not covered by the catastophic-illness policy are not collectable.

But while the incidence of "above-ceiling" costs is quite small, the fear of them is real. We might, however, see a good deal of emphasis on a fairly high deductible — a floor for catastrophic-illness reimbursements — and on some "coinsurance" feature up to a certain amount or to a certain percentage of the insured's family income. And perhaps we will see government reinsurance of catastophic illness costs for the 5% "noninsurables" — first proposed 25 years ago by President Eisenhower.

Five years hence two fifths of the population — the employes in large companies and governments — will be insured for the costs of prescription drugs, again with a deductible perhaps of $100 a year per family. More important — and more costly — by 1985 or so around half of the families in America will have insurance for dental bills — and by 1990 the great majority will have it. By then also the expenses for the three most common medical appliances — corrective glasses, hearing aids and dentures—will be insured for the majority.

The vehicle for these extensions of coverage will not be law but contracts between individual employers and their employes. Emotional problems will not, however, be covered by most of these contracts, I believe, except in the case of genuine psychotic ailments requiring hospitalization. The cost of psychotherapy is much too high and impossible to control. Despite government assertions that "three out of four" Americans suffer from emotional illness, the belief in the efficacy of psychotherapy has probably crested and may be going down very fast.

Most of the current discussion of health-care delivery is couched in terms of either the individual physician practicing alone or of the "Health Maintenance Organization," a collective of physicians operating out of one central location. But the American health care system of tomorrow will consist of three parallel and competing channels of delivery: the private physician, the Individual Physicians Association (IPA) and the HMO.

The bulk of health-care delivery 10 years hence will still be with the private physician, though more and more will have what are (erroneously) called group practices. Next in importance will be the IPA. Employers in certain areas will get together and set standards and fees for medical services, with the help of a medical director or counselor. Physicians who agree to meet the standards and fee levels will be recommended to employes by the IPA.

This is essentially the system that has been working well in Germany for 75 years. It preserves freedom of choice on the part of the patient, but also provides a means of cost and quality control. Such plans already exist in the U. S. and are growing fast.

The HMO, on the other hand, will grow only to the extent to which government imposes it. I used to be a fervent advocate of HMOs. But it may well be an idea whose time has passed, despite fervent advocates in Washinton. The IPA does everything the HMO does but without the latter's limitations — that is, the absence of physician choice and a permanent physician-patient relationship. The only cost advantage of the HMO is its ability to concentrate its patients in one centrally managed health-care facility. But in a decentralized country such as the U.S., and with more and more women working miles from their husbands and children, this isn't an advantage at all.

The great attraction of an IPA is that policing of standards will stay within the medical fraternity. The IPA director and medical counsel will decide which physicians will be admitted to practice for the subscribers.

"Peer review" of doctors by doctors in hospitals is growing because of malpractice suits and government pressure. Coming even faster is systematic review of hospital costs by Blue Cross and other insurers, as well as empoyers and large unions. Ten years hence, large empoyers, government bodies, IPAs and hospitals will jointly determine medical standards and costs in typically American fashion—disorderly and decentralized.

Some Untruths

It is simply not true that the American health care system is more expensive than any other — it may actually be among the cheaper ones in terms of gross national income and family income. The figures that are bandied about on the "lower costs" of other systems are simply phony — the real cost of the British National Health Service, for instance, is not "under 7% of GNP"; it is closer to 12% considering that the British will have to spend in the next five

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years almost as much on making good their shortage of hospital beds as they are spending on current health care operations.

It is simply not true that our health care costs have risen faster than those of other countries they have risen much faster in Germany and in Sweden, for instance. It is simply not true that America uses hospitals more than anyone else. In every developed European country, hospital admissions per thousand population are higher than in the U.S., hospital stays are longer and in most of them the per diem cost is higher.

It may not even be true that health care and especially hospital costs have risen faster than any other major item in America and faster than inflation that may be true only for those costs, such as Medicaid, imposed by government.

In other words, there are good reasons why the great majority of Americans in every survey declares itself as "pretty satisfied" with its health-care system and why there is no grassroots pressure for more than minor changes in it.

Claremont Graduate School
Claremont, CA 91711

What They're Saying . . .

Writing for READER'S DIGEST *Harry Schwartz,* member of the Editorial Board of the New York Times, recently took the critics of American medicine to task:

"All too often, critics want to 'organize' American medicine by sharply restricting our choices when we become patients, and — ironically — reducing the competition. HEW officials assail what they call the maldistribution of medical resources in America, pointing to our rural areas and inner cities. No free society which gives individuals, including doctors, the right to choose where they will live and work ever has the ideal distribution envisaged by some bureaucrat. But the problems that inevitably exist should not be exaggerated."

— REMINDER —

"Very late in life, when he was studying geometry, some one said to Lacydes, 'Is it then a time for you to be learning now?' 'If it is not,' he replied, 'when will it be?'"

. . . Diogenes Laertius

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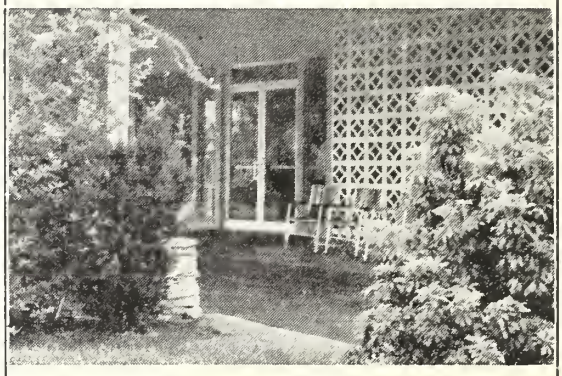

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